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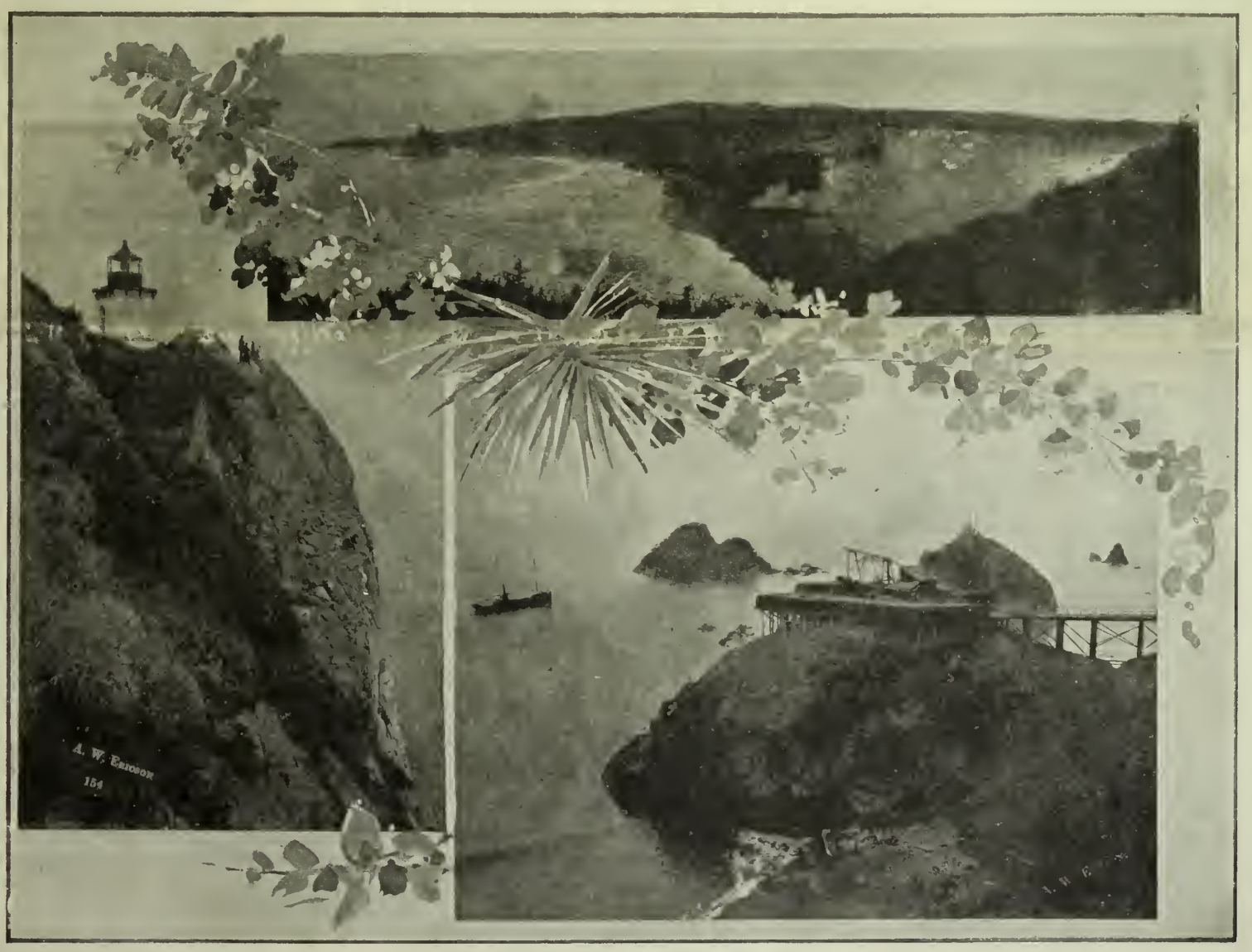
THE
PACIFIC RURAL PRESS
CALIFORNIA FRUIT BULLETIN.

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On the Coast of Humboldt County.

It is timely to speak of the coast and the mountains, for all the Californians who are not enchained by home duties and responsibilities are either at the coast or on the mountains this month. This week's reference is to the coast, and it is true to say that the portions of the coast most visited at the present time are not the most picturesque. As development comes to the northern coast of the State and avenues of travel open, the summer travelers will find rough beauty there which is hardly suggested by the smoother coast lines of the central and southern parts of the State. Just as an illustration to enforce this claim, take the group of views on this page, which we borrow from the elegant Humboldt County Souvenir of the Eureka Times, and in connection with these pictures a few facts about the Humboldt county coast are of interest.



Trinidad Lighthouse. Looking Toward Trinidad From the Cape. Houda's Landing Near Trinidad.

Scenes Along the Coast of Humboldt County, North of Eureka.

Humboldt bay, affording the only harbor on the coast of northern California, and the principal one between the bay of San Francisco and the mouth of the Columbia river, is 14 miles in length, with a varying width of ½ mile to 4 miles. Its tidal area is approximately 28 square miles, with about 35 miles of navigable channels, and it possesses an available water frontage of over 50 miles. The bay lies lengthwise parallel to the coast, separated from the ocean on the west by peninsulas varying from ¼ mile to 1½ mile wide. The entrance to the bay from the ocean is situate about the center of the coast line of Humboldt county. On the north, east and south the bay is protected from storms by mountain ranges and headlands, and, the entrance being comparatively narrow, the most tempestuous storms of the ocean scarcely disturb its waters.

The vast importance of so commodious and safe a harbor, contiguous to the highways of Pacific commerce, had long been recognized by maritime interests, but its usefulness had been impaired by the presence of a sand bar, which obstructed the entrance, making ingress and egress a matter of some difficulty, and not without danger. Added to this drawback was the fact that the depth of water in some of the inner channels was not sufficient to permit of large shipping. The Federal Government, recognizing the importance of the harbor, appropriated sufficient funds for its improvement, the improvement consisting of dredging the channels in the bay and constructing jetties at its entrance, with the objects of fixing a permanent and direct channel and removing the obstruction of the sand bar. Dredging was commenced in 1887 and the work of building the jetties in 1889. The work was completed in 1894, a sum of nearly $2,250,000 having been expended in the operations.

The effect of the improvements has fully justified the claims advanced in support of their plans by the engineers. The jetties have forced, and are maintaining, by the scouring action of the tides, a permanent channel, constantly deepening and broadening, through the sand bar, while the depth of water on the bar has increased from 8 to 10 feet, before the improvements commenced, to a minimum varying from 25 to 30 feet at extreme low water, affording sufficient draught to permit the passage of any vessel, at any stage of the tide.

The channels in Humboldt bay are well defined, as an aid to their navigation, by a system of buoys and fixed lights. The main channel extends from the entrance, in a general northeasterly direction, passing the city front of Eureka and Indian island, to a point a little north of Eureka. Above, it subdivides into two branches, one on the west, the Mad river channel, the other the Arcata channel, extending northeasterly and terminating at the wharf of the town of Arcata. The main channel possesses, at its shallowest point, a depth of 14 feet at lower low water. Arcata channel exhibits, on a similar showing, a depth of 8 feet.

In the South Bay are two channels—one terminating at Southport wharf, and known as the Southport channel, the other the Eastern or Hookton channel.

Other shipping points in Humboldt county are Trinidad bay and Shelter cove. Trinidad bay lies up the coast about 20 miles north of Eureka, well sheltered from the north and west winds by a bold promontory, Trinidad head, and possessing a sufficient depth of water to accommodate the largest vessels.

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The Week.

Moderate weather and a lower temperature have prevailed this week and they have been generally acceptable to plant life. The preeeding stress had, however, quite a marked effect on field erops; good grain is to be in moderate supply and should gain in value. Fruits are coming on well as a rule and the local demand is keen, so that less is available for Eastern shipment fresh. The Eastern shipment to the middle of the present week aggregated nearly 475 ears, and this is about 200 ears short of last year's reeord. Prices at the East have been good and the demand quiek, but the ehanee to sell at home has taken the fruit. The eanners have been especially aetive this year. Their enterprising push of their business eleared out last year's pack thoroughly and they need mueh fruit this year and are paying good priees for it. It is certainly eneouraging that California fruit is winning its way so well and is to be aeeepted as a staple in plaees where we seeured entranee because of a short season in home supply. There is, therefore, much significanee in this report from Consul B. H. Ridgely at Nantes, Franee:

A year ago there was an almost eomplete destruetion of the fruit and early vegetable crops in this region. This year the situation is quite the reverse, and there is every prospeet of the best fruit erop France has enjoyed for three years. The apples and prunes are partieularly fine and abundant. While this means a deereased demand and perhaps eheaper priees for Amerieau dried fruits, such as slieed apples, pears in barrels, and prunes and apriеots in cases, it does not at all signify that the United States is to lose this trade, which in recent years has developed so rapidly in Franee. On the eontrary, sinee it has been fully demonstrated that Franee even in a good year eannot produce anything like a sufficient crop of apples and prunes for her own eonsumption, it is eertain that these produets must eontinue to be imported from the United States.

That is just what we want to achieve in all populous fruit-eating eountries. There is every reason to expect that California dried fruits will make themselves a regular plaee and thus move quietly and steadily forward—gaining eonstantly by wider distribution, and this is a faetor of the outlook whieh the pessimists in this line never take sufficient aeeount of.

Wheat is at a standstill, no clearanee and no charters being reported. On the other hand, the ship owners and wheat exporters are at a deadloek through their respeetive eombinations, and the growers are eonfident and not rushing to sell. Spot wheat is nominally as before, while futures are a little stiffer, following a slight advanee in Chicago. Barley is quiet, with a firm undertone. Buyers are trying to hold things down here, but there was a sale on Wednesday at better than the ruling price. It is reported that English buyers are hunting barley in the eountry. Oats are quiet and steady. Buekwheat is out of stock and stiff at the East. There is no change in beans; stoeks are well held and not heavy. Hay is weak; there is much old and more new in sight. Bran is easier and more offering; middlings are not in heavy supply, but the demand is light. Beef is weak, mutton, lamb and veal firm and hogs steady. There is a fight on in the butter market over some ereameries and the price is pushed up, though the general trade is not brisk and plenty of Eastern butter looking for a ehanee here. Cheese is in fairly good shape, espeeially for choiee new flats, though mueh eheap Eastern eheese is landed here. Eggs are rather firm and unchanged for ehoiee, with many Eastern coming. Four ears of Eastern poultry are in, and only nice young ehickens are looked for in the local supply; the market is not in good shape Potatoes are firm and in good demand; onions are better. Apricots are eoming in freely and eanners are taking them at $20 to $35 per ton, while other trade pays up to 2½ eents per pound for ehoiee. Peaehes and good later plums are selling fairly. Oranges are ehiefly a few Valeneias; lemons are unehanged, with a fair movement, and limes are abundant. Futures on new dried apriеots are being sought for, but the peaeh demand seems a little slower; new dried apricots are beginning to arrive. Dried apples are scaree and high. Buyers are making a bluff with offer of new prunes at 2 cents, or 1⅞ eent on a 9 point basis. This keeps out buyers and depresses the trade and should be made impossible. The nut market is firm and nothing doing. Honey is firm and quiet. Hops are a little weak this time; old are offered at a eut and bidding on new is not lively. Wool is firm and little remains in growers' hands.

We must say good-bye to Mr. Alexander Craw, who to our own knowledge has been an important factor in the promotion of California hortieulture for a quarter of a eentury and whose excellent work during the last decade and a half has made him esteemed by all who pay any attention to the fruit industries of California. Mr. Craw's eareer as guardian at San Franeiseo against the introduetion of injurious animals, great and small, has made him a name throughout the State, while his suceessful studies and manipulation of parasitic and predaceous inseets have brought him fame in all parts of the world. Mr. Craw has done his work with great zeal and untiring energy, and beeause he has been so good we are soon to lose him. If he had been content to sit on his job, as too many public servants do, we might have kept him for life. The faets are, as eurrently reported, that the territorial government of Hawaii ealls Mr. Craw at $5000 per year for five years, and Mr. Craw has aeeepted. This being the case, nothing remains but to assure him that he will carry to his new field the most sincere thanks of Californians for all that he has been and all that he has done and to express the hope that his future will be full of happiness and opportunity.

There is another personal affair which we are more glad about, and that is that Purdue University at its last commeneement eonferred the highest honor at its disposal and recognized an engineer of distinguished merit in conferring the honorary degree of doetor of engineering upon Elwood Mead, chief of the Government Bureau of Irrigation and professor of irrigation in the University of California. This degree is rarely given and only to persons of distinguished attainments in engineering. It has not been given at Purdue before.

It has been a sort of California week at the World's Fair. The California eounties exhibiting gave a formal opening reeeption in their spaee in the Palace of Agrieulture, which drew a greater crowd than the area eou'd hold and set every one talking about California. President Francis of the Exposition and others shared with Governor Pardee in the honors of speech making. President Francis gave unstinted praise to the exhibit of the counties and ealled attention to the fact that many of the displays were alone as elaborate as those of some States, forming a remarkable aggregation, whieh was a tribute to the greatness of the State.

QUERIES AND REPLIES.

Trouble in the Soil.

To the Editor:—I am sending you a twig from Phillip's eling whieh is growing on sandy soil. Some trees are doing well, others are losing their leaves. I hope you will be able to tell from sample what the trouble is.—H. G. T., Dinuba.

To the Editor:—I send you a twig of Phillip cling peach. Some of the trees are doing all right, others all wrong. The soil, I think, is moist enough. There is some alkali. The trees grow some, but the leaves fall off.—C. F. G., Dinuba.

These two speeimens are similar. The leaves do not manifest the trouble exeept by premature yellowing. There is no sign of pest or disease upon them. The difficulty is probably in the soil. The sandy soil may not hold moisture enough for them to proceed with their summer's growth. The reason why some trees look well and others fail may be due to the faet that some spots have eoarser sand or sand over gravel, while the thriving trees find a more retentive basis. The oeeurrenee of alkali would produce about the same appearanee and that, too, would be spotted in its distribution. The way to determine the matter is to dig down and see how the moisture is, and if that is apparently adequate send a sample of the soil from about the roots to the Experiment Station at Berkeley to see if alkali is present, unless you already know that it is.

Pear and Apple Blight.

To the Editor:—Has a remedy been found for pear blight? We also have this year what I take to be apple blight. Is there a remedy for it? I have just returned from a trip to Fresno and Madera counties and found what I eall a'ple blight there. Is it so, and will it be as detrimental as pear blight?—Reader, Firebaugh.

We regret to state that no satisfaetory remedy has yet been found for pear blight. There is nothing to do but to delay its progress by the systematie eutting out of blighted parts of the tree, in aeeordanee with the suggestions whieh we have recently published. This blight affeets also the apple tree. There is, however, another blight of the apple tree, whieh is manifested first by a powdery deposit on the new growth and afterwards by the eurling and browning of the leaves, which is not the blight that affeets the pear. This is ealled "powdery mildew of the apple," and is held in eheek by the free applieation of sulphur to the new growth of the tree early in the season. It is claimed in Colorado that the blight of the pear also affeets the apriеot; but this, fortunately, has not been the case in California so far as we know.

Rattlesnake Weed.

To the Editor:—Will you give the right name of this plant and if it has any medieinal properties? It grows in quantities here and is known as "rattlesnake weed." It is said to be a cure for snake bites and to grow around where rattlesnakes are. If it is a sure cure for snake bites, I would like to know it, as we have found a great many rattlesnakes here.—Reader, Berros.

The plant is known to the Spaniards as "Yerba de Vibora" and botanieally as Daueus pusillus. This plant is eonsidered by Indians, Spaniards and mountaineers as an infallible remedy for rattlesnake bites; but we know of no demonstration of its efficacy or otherwise, nor have we any information as to the way in which it is used. Possibly some reader will continue the diseussion.

Galvanized Iron Chicken Houses.

To the Editor:—Would you advise building a chicken house of galvanized iron in this eountry? Is it not too hot for summer weather? What sort of floor is best for such a building? How about a framework for the iron sheathing—should that be of iron also?—Enquirer, Corning.

The eonstruetion of galvanized iron chieken houses is probably only worthy of eonsideration in places where chicken tieks are abundant. These pests are almost impossible of dislodgement except by fire, beeause it is so difficult to reaeh them by any insecticidal application in a wooden house full of creviees. The Australians made elaborate experiments in eombating this insect and concluded that galvanized iron houses, which could be filled with straw oeeasionally and fired, were the only structures which could be kept free from the pests. The ehieken tiek is abundant in some parts of the Sacramento valley, and all sorts of applications have been resorted to to destroy it without satisfaetory results. Of course, to com-

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plete construction which would stand burning out iron framework would also be desirable, but this would be rather an expensive matter, for it would probably necessitate riveting the sheathing to the frame. Possibly a redwood frame, which is slow to burn, could be made, covered well with fireproof paint and then sheathed with the iron, thus possibly securing an affair which would stand straw fire enough to kill the ticks without igniting the frame. An iron house in the interior should, of course, be kept well covered with white paint or whitewash, which would reflect the heat and thus reduce the objection from high temperatures in summer. A chicken house, wherever possible, should have an earth floor and be capable of moving from time to time to fresh ground. This also would very much reduce the danger of its being infested with ticks.

Forage Plants.

TO THE EDITOR:—I have a farm northeast of Napa, just bought, and intend to set part to grapes, almonds and English walnuts, all of which do well—in fact, all kinds of fruit do well, as the locality is more free from fog and frost than Napa valley. I want a forage plant that will take the place of alfalfa on a small portion that I believe is too wet for alfalfa, although the alfalfa has not been tried on that piece. Is there any grass or plant that does well on our upland or hills which will give more feed than the natural grasses and will stay green in the fall or late summer? Our whole section of California is in need of something that will stand our summer weather on the hills and dry lands and still grow perennially.—NEW COMER, Napa.

The plants which will yield you best results on the wet land which you mention are Australian rye grass and Eastern red clover. If the piece dries out very badly in the summer the red clover will probably fail, but the rye grass will probably maintain its life during the summer time and grow in the fall and winter and late in the spring, and it is not injured by standing water. For drier hillsides we do not know of anyting better than the native grasses and clovers, and nothing that will stay green in the fall without irrigation. It would be profitable and delightful, of course, if our hills would retain perennial verdure, but when we remember their long season of fall, winter and spring verdure, and contrast the few months of dryness with the long winter cover of snow at the East, we do not seem to be so badly off after all in California, even on the dry lands.

Disease of Rose Roots.

TO THE EDITOR:—Two years ago this place had the finest roses in the city. To-day it has none at all, although I spent over $30 last year in replacing those that had died. The gardeners whom I have consulted have given me as many different opinions as there were individuals. I have been advised to consult you and send you a portion of the root of one of my lately deceased Standards. Please let me know if there is any remedy for the trouble.—AMATEUR, Alameda.

We are exceedingly sorry that we cannot satisfactorily assign definite cause to the diseased growth of rose roots shown by your sample. We have seen indications of it from time to time, but do not understand what agency is involved in it. We believe it can be prevented by the use of a small amount of sulphur and nitrate of soda, mixed and applied to the soil around the plant and washed into the soil by irrigation or by the winter's rainfall. One has to be careful about using too much to the plant, because nitrate of soda is destructive to plant roots if used in large quantities. Make a mixture of half and half sulphur and nitrate of soda and apply about two tablespoonfuls to each plant, scattering it over a circle about 1 foot in diameter and treating with water rather freely until it is washed into the soil.

Persimmon Growing.

TO THE EDITOR:—Pardon me for again trespassing on your time, but when horticultural troubles assail me the needle of my compass always points to you. The young peach trees with root knot, about which I wrote you a few weeks ago, are rooted out. They were past redemption, as most of them had knots over all parts of the roots, though only two years old. Now the problem is what to put in their place next winter. What do you think of persimmons? I have two trees (different varieties) of Japanese growing here and they always look well and bear well. Is there a market for more than is produced now? What varieties are best for commercial purposes? Will they endure much alkali? As they are a dwarf tree, I could plant closer than I had the peaches and avoid using many of the old holes. I note what you say of them in "California Fruits," but would like any further information you may give me along this line.—ORCHARDIST, Tulare county.

To the best of our knowledge and belief persimmons do not warrant extension of their production in this State, except for home use or local sale. Very few, indeed, are called for, and from one to three carloads a year constitute the total amount which growers have been able to sell profitably at the East so far. Sometimes a few are sold in San Francisco at good prices, but no quantity can be successfully handled. The fruit is exceedingly handsome, is counted by some very delicious; but either our people do not like it or do not understand it—at least, they will not buy it in any quantity, although it does come out at the time of the year when such a handsome fruit would seem to be in great request, for decorative purposes, at least. No particular difference has been manifested in the selling quality of different varieties. The trees are rather small in size and could be planted closer than peach trees. Sixteen feet is sufficient distance. We can not advise you as to their tolerance of alkali, as we have no observation covering that point.

Poison for Ground Pests.

TO THE EDITOR:—A kind of short tailed squirrel or prairie dog is working havoc with my grain in the fields. Can you give me a recipe for a cheap and effectual method of exterminating them?—FARMER, Shasta county.

The best way to deal with the animals of which you speak, is probably by the use of poisoned grain. We have frequently published the recipe for the best poison for ground squirrels, and the same preparation has also proved very satisfactory for prairie dogs in Kansas. As we have many new readers who may not have seen the formula, we give it again:

Take strychnine, one ounce; cyanide of potassium, one and one-half ounces; eggs, one dozen; honey, one pint; vinegar, one and one-half pints; wheat or barley, thirty pounds. Dissolve strychnine in the vinegar; and you will have to pulverize it in the vinegar, or it will gather into a lump. See that it is all dissolved. Dissolve the cyanide of potassium in a little water. Beat the eggs. Mix all the ingredients together thoroughly before adding to the barley. Let it stand twenty-four hours, mixing often. Spread to dry before using, as it will mold if put away wet.

In wheat districts use wheat, in barley districts use barley, as the squirrel will eat it better. Place a few grains of the poison in or near each hole. Do not waste it by too free use. It is a very active poison and little is needed.

To Rid a House of Fleas.

TO THE EDITOR:—I have just bought a small ranch near Santa Barbara and I find that the house and the barn are infested with fleas, not casual fleas such as one expects to find in a San Francisco theater, but absolutely a plague of them—a pest to both beast and man. Can you suggest a likely cause? Naturally there have been dogs about the place, but no hogs as far as I know. The place is distinctly not sandy. I should be glad if you could tell me of some effectual method of abating, or better still, of completely overcoming the nuisance. — SUBSCRIBER, Santa Barbara.

We cannot tell where the fleas came from. Neither hogs nor sand seem to be essential to their abundance. They have had a chance to multiply through the neglect of warfare against them by the earlier occupants. To clear them out you must resort to vigorous measures. A cheap and widely available material is creolin. Commercial creolin is inexpensive and may be bought at any drugstore as a blackish-brown liquid. When this is mixed with water it forms a milky-white solution. First the animals admitted to the places should be thoroughly washed with a mixture of creolin and water, or dipped and held for five minutes in it. This will destroy the adult fleas as well as the larvæ, and thus prevent further breeding. For dogs a 3% solution should be used; for cats, a 2% solution, as the fur is more sensitive and the hair finer, and will hold the solution longer. After the removal of the animal no more attention is required than if the animal were submerged in clear water.

The measures outlined below are very effective to rid dwelling houses of this pest. The situations in which household insect pests are most likely to breed are under carpets, rugs and mats; also under various things piled on the floor, such as books, boxes and papers, consequently it is desirable that mats should be substituted for carpets, because the former can be easily taken outside and aired; there they should be beaten and shaken to remove the eggs and larvæ of the fleas, as well as the adult insects. All unnecessary material should be removed from the floor. If the floor contains cracks and crevices, the immature stages of the intruders are sure to be there. Such floors should be scrubbed with a 5% solution of creolin. Should the infestation be such a desperate one that all these measures fail, as a last resort the house may be fumigated with hydrocyanic acid gas, as described in the PACIFIC RURAL PRESS of Nov. 8, 1902. You can probably make a contract with some one who is used to fumigating orange trees to do this for you. The chemicals are dangerous in the hands of an inexperienced person.

WEATHER AND CROPS.

Report of the U. S. Weather Service for Week Ending June 27, 1904.

ALEXANDER MCADIE, Forecast Official and Section Director.

Sacramento Valley.

Clear, cool weather and southerly winds continued most of the week in nearly all sections. Hay harvest is almost completed and stacking and baling are progressing rapidly; the crop is heavy and of good quality. Grain harvest continues; wheat and barley are of fair quality, but the yield is light in most places. Hops are in good condition and will yield a fair crop. Dry feed is plentiful and stock are doing well. Blackberries and raspberries are yielding a larger crop than usual. Peaches and apricots are light in most sections. Pears are ripening and will be ready for shipment in a few days. Vineyards are in excellent condition and a large crop of grapes is probable. Citrus fruits are doing well.

Coast and Bay Sections.

The weather during the week was clear and cool, with light winds, and generally favorable for all crops. Fogs in the coast districts were beneficial. The hay crop is being rapidly harvested and baled; the yield is large and the quality excellent. Oats are yielding a heavy crop in some sections. Wheat and barley harvesting is in progress and the yield is said to be very good. Hops, beans, corn and potatoes are doing well and fair crops are expected. Grapes are in excellent condition and give promise of a heavy crop. Deciduous fruits are being gathered and shipped. Apricot drying is progressing. The apple crop will probably be below average in all sections.

San Joaquin Valley.

Clear, warm weather prevailed during the past week. Grain harvest continues in all sections; the barley crop is fair, but wheat was pinched in most places by the dry winds, and will be a light crop. Haying continues and baling is in progress. The fruit crop is ripening rapidly and in some sections is good. Most of the apricot crop has been shipped to the canneries and driers. Peaches, nectarines, figs and Tragedy prunes are being marketed. Melons are beginning to ripen and will soon be plentiful. Grapes are making good progress and promise a large crop. Feed is getting scarce, but stock are healthy and in fair condition. Irrigation water is getting low.

Southern California.

Clear days and foggy or cloudy nights prevailed during the week. The grain and hay crops are being harvested and both are reported light. Vineyards are in excellent condition and prospects are good for a heavy yield of raisin and wine grapes. A large crop of mountain cherries is being gathered. Olives in San Diego county are in unusually good condition. Berries of all kinds are plentiful and of superior quality. Deciduous fruits are maturing and with the exception of apricots will yield fair crops. Oranges and walnuts are doing well. Sugar beets and beans continue in good condition.

LOS ANGELES SUMMARY.—Cooler week, with cloudy or foggy mornings and several sprinkling rains, benefited growing crops and tended to conserve soil moisture.

EUREKA SUMMARY.—Dry and windy weather the fore part of past week. Rain is needed in the interior. Hay crop is immense; oats were never better. Apples and cherries are a little below average; other fruits are abundant.

Rainfall and Temperature.

The following data for the week ending 5 A. M. Wednesday, June 29, 1904, are from official sources and are furnished by the United States Weather Bureau for the PACIFIC RURAL PRESS:

CALIFORNIA STATIONS.	Total Rainfall for the Week	Total Seasonal Rainfall to Date	Total Seasonal Rainfall Last Year to Same Date	Average Seasonal Rainfall to Date	Maximum Temperature for the week	Minimum Temperature for the week
Eureka	.00	64.21	51.73	46.64	58	46
Red Bluff	.00	31.16	24.22	26 30	108	68
Sacramento	.00	16.86	16.62	19.99	98	54
San Francisco	.00	20.59	18.28	22 72	64	48
Fresno	.00	8.04	8.50	8 81	106	58
Independence	.00	2.59	2.36	3.77	90	60
San Luis Obispo	.00	16.99	18.49	20.17	68	48
Los Angeles	T	8.72	19.31	16.51	76	56
San Diego	.00	4.40	11.76	8.24	70	58
Yuma	.00	1.00	1.73	2.89	106	64

HORTICULTURE.

Commissioner Roeding's Report on the World's Fair.

Mr. George C. Roeding, of Fresno, had charge of the horticultural features of the State of California displays at the World's Fair. He has given to the Fresno Republican descriptive notes of many things in connection with the exposition, from which we take paragraphs relating especially to the State Building and the displays made by our people in other buildings.

The California Building.—The California building is located on a site practically in the center of the grounds on quite an eminence and fully a mile distant from where most of the State buildings are situated. It was largely due to the astuteness of our commissioners, Messrs. Wiggins and Filcher, that this spot was selected. Shortly after the selection was made Illinois, although it had already made a location with the other State buildings, saw the advantage that would accrue to it in making a change and selected a location adjoining the California State building. Outside of the last named building, there are but five other state buildings on the road leading to the California building.

California, considering its importance, has devoted less money to its building than probably any other State, and many of our California visitors are disappointed with it. They lose sight, however, of the historical feature which this building possesses and simply because it does not present a fresh, white and finished appearance, they at once jump to the conclusion that it does not do us justice. This building cost in the neighborhood of $17,000 and it is a copy of the old mission at Santa Barbara, erected in 1786. When a visitor enters the building, he is usually greeted by Mr. Wiggins, who says, "This building is 124 years old." It is diffieult for visitors at times to appreciate the meaning of what has been said to them. In spite of the fact that the California building may not be as pretentious as some of the other State buildings, it is unquestionably the most attractive to the visitor. The furniture looks as if it is intended for use and the cordial reception which is extended to all visitors, whether from California or from another part of the world, has done much to make the building popular.

The idea which our commissioners have had in view in making an exhibit has been to present a full and complete display of the products of the State, and, in order to do this with the limited appropriation available, they fully understood that it was out of the question to put too much money into the construction of the building. An admirable and at the same time economical feature of the California building is that apartments were provided for all the commissioners and chiefs of departments. They occupy the upper floor of the building and are very comfortably situated. The result of this is that those who have work to do in connection with the building are in close contact with it at all times, and the saving to the State in the way of expense can be appreciated when it is understood that the officials living in the building pay only $4 a week for their board and lodging. Governor Pardee during his stay in St. Louis will make the California building his home and will be given an opportunity to see how well the commissioners fare on $4 a week.

The California Exhibit.—California makes its greatest display in the Agricultural building, occupying more space than any other State or foreign country. The exhibit is located in practically the center of this building, which covers an area of over twenty acres, and for variety of products in the agricultural line there is nothing in the entire building which compares with the exhibit of California. Every line of product for which California is famous is here shown in complete detail, and the various counties contributing to make this exhibit an attractive one have vied with one another in displaying each of its particular product.

The northern counties, under the name of the Sacramento Development Association, make a magnificent show of processed fruit in glass jars. Their exhibit is arranged in a structure built to represent the dome of the State capitol. In this is placed their jars of fruit and many other products. Outside of this particular structure they have several attractive features, among them being a grizzly bear made entirely of prunes, a horse made of hops—an industry for which Sacramento is noted. An immense frame about 8 feet square is made to represent the seal of the State. They have also a magnificent exhibit of olive oil, wine, canned and dried fruits and many other products for which Sacramento county has an established reputation. The counties that have joined to make this exhibit what it is are those lying in the Sacramento valley.

Southern California. — San Bernardino, San Diego, Ventura and Santa Catalina island adjoin, and each presents some special feature. San Bernardino has an immense pyramid of jam and preserved fruits. Santa Catalina's contribution consists of the fishes for which the place is famous. San Diego makes a very fine display of olive oil, also shows frames with clusters of raisins. The feature of the Santa Barbara exhibit is the pyramid of olive oil, containing over 1800 bottles, the product of Ellwood Cooper's famous orchard at Ellwood

Los Angeles, Ventura, Orange, San Luis Obispo and Monterey counties form another group on the aisle directly across from the last named exhibit. Los Angeles' exhibit is a very attractive one from an architectural standpoint. It is built something after the mission plan, with a tall tower in the center, and the pillars are all covered with a rich olive green velveteen, and between the pillars are placed glass frames in which the products of Los Angeles are set forth to view. One of the most attractive features is the citrus display, and by the way, this industry will be of great value in the spots in this State free from frost. The citron produced in Los Angeles county is said to be superior to that from any other part of the world, and Dr. Westlake, to whose perseverance this industry has finally been brought into commercial prominence, says that his product has been sold every year long before it has been ready for the market. The display of ostrich feathers, nuts, olive oil, wine and honey, as well as fruits in jars, is a magnificent one. It is largely due to the energy and taste displayed by Charles Wilson of Los Angeles, who has charge of the State features in the Agricultural building, that this display is presented in so interesting and pleasing a manner. Bishop & Co. of Los Angeles make an individual display of their products, consisting of jams and preserved fruits, which is one of the most artistic individual displays in the California exhibit.

Coast Counties.—San Luis Obispo and Monterey join in exhibiting their fruits in glass and also their cereal products. Their first structure was not satisfactory, and it is now being rearranged under the supervision of one of the commissioners. The displays of Orange and Ventura counties are arranged after the mission plan. One of the features of the Ventura display is its elk, made entirely of beans. As is well known, Ventura county is the great bean producing county of the State. It also exhibits fruit in jars and makes a fine display of sugar in its various stages from the sugar beet. Orange county displays attractively fruit in jars and also walnuts, and its exhibit is very handsomely set off. The mission plan has been followed.

The Bay District.—Santa Clara also availed of the mission plan type of architecture, and the entire exterior of the structure is covered with dried fruits. It is embellished with jars of processed fruit. Alameda and Contra Costa counties have made a joint exhibit, the structure consisting of heavy square pillars surmounted by a heavy frieze, the entire affair being constructed of California redwood. The exhibit consists of wines, nuts and vegetables. One of the features is the demonstration of the use of canned fruits, samples of the fruit being handed to the visitors by a young lady, who gives a short talk on the value of our California canned fruits.

Adjoining this exhibit the State makes a magnificent display of dried fruit of California in commercial packages. This display stands 14 feet high against the wall of the building and extends a distance of 80 feet. It consists of apricots, peaches, prunes and all of the dried fruits from California. A third of the entire space is occupied by the exhibit of raisins from Fresno county, put up in fancy as well as in commercial packages. The exhibit is highly embellished with photos of vineyards, packing houses and seeding plants, showing the development of the industry.

Notable State Features.—Among the State features worthy of mention are the fruit exhibits, honey, canned fish and the like. One feature that will undoubtedly attract more attention than any other is the magnificent wine display, occupying a space in the very center of the building and known as the wine palace. This has been made to conform to the cotton, tobacco, corn palaces, the exhibits made being of national importance, and occupying a space extending from one end of the building to the other. This exhibit consists of immense casks, surrounded with a base of smaller barrels, with intervening spaces in which will be placed bottles of wine from all parts of the State. In the center a tower rises 30 feet, surrounded by heads representing Bacchus, the god of wine. A number of appropriate quotations from the Bible, as well as from history, are arranged in such a manner as to attract the eye. This exhibit was not fully completed at the time of my departure; however, enough could be seen to give a good idea of how it would look when finished.

Fresno and Kings.—Fresno and Kings counties have made a joint exhibit, that is, from the standpoint of design. Fresno county occupies one side of the frame and Kings county and the Laguna de Tache the other. C. F. Wyer, who has charge of the exhibit, is worthy of praise for the artistic manner in which the entire exhibit is arranged. The general plan of the structure is Egyptian, and in arrangement it is entirely distinct from any other exhibit in the California space. The products are so arranged that the visitor passing down the aisle cannot help but see Fresno county's display. The supposition when this exhibit was gathered was, that on account of not having much processed fruit in jars, it would be inferior to exhibits from other sections of the State, and that Fresno county would have good reason to be ashamed of her display in this line. The very contrary has been the result. Fresno county is one of the very few presenting features and showing packages put up in a commercial way, and while most exhibits are overburdened with processed fruit, Fresno's, by contrast, is distinctive and original. Each of the following firms have pedestals on which their exhibits are arranged in a manner which is highly pleasing and which will meet with the approval, not only of the exhibitors themselves, but of all visitors from this part of the State: T. J. Hammond, Eagle Packing Co., Roeding Fig Packing Co. (Inc.), Roeding Olive Co., Home Packing Co. and the Co-operative Raisin Association. It is unfortunate, however, that arrangements could not be made for seeding and distributing raisins in this exhibit. It would have done more to advertise and would have created a greater demand for seeded raisins than any other one thing that Fresno could have done. It is only those who have been at exhibitions of this kind for some time who can fully appreciate the value of a demonstration. People are overloaded with cards and advertising matter. They get so much of this kind of stuff that the average person pays no attention to it, and the exhibitions often make a very faint impression on their minds. But seeing how the thing is done sticks in the memory. A seeding machine in operation with a few raisins — no more than two or three to each person — would have made an exhibit that would have impressed itself indelibly upon the memory. A working exhibit is unquestionably of much greater value than an exhibit which merely represents the product of a section. One seeder in operation would have been the biggest thing from California.

Kings county's exhibit of corn, although it does not present so fine an appearance as the magnificent corn exhibits from other Eastern States, has demonstrated to the Eastern people that California can produce corn. As you know, the general impression prevails throughout the middle Western States that California can not raise corn, and this exhibit makes the fellows from the corn belt open their eyes. It is very attractively arranged, and W. N. Harris, who has it in charge, has shown excellent taste in its installation. It is so situated and arranged that it is bound to attract attention.

Horticultural Building. — The Horticultural building adjoins the Agricultural building and is about half the size of the latter. California's exhibit in this building stands pre-eminently above everything else in the structure. If there are 100 persons in this building, half or two-thirds of them will be found going through the California exhibit and admiring the display. The exhibit is arranged in the form of arches decorated with oranges and over each arch the word California is spelled in oranges. The exhibit consists principally of processed fruit in glass jars arranged on tables and in pyramidal form; also of fresh fruit, which is constantly replenished from fruit in cold storage in St. Louis.

Eastern people are beginning to admit that California can grow apples, and our apples compare very favorably with the best apples produced in the East, and on the average are very much better than many of the exhibits from the famous apple States.

The features of California's horticultural exhibit are the following: Walnut elephant, pyramids of almonds and exhibit showing the method of irrigating in Riverside. This exhibit presents a particularly pleasing feature, as it not only shows the orange groves of Riverside, but in the distance are to be seen the snow-capped mountains. In addition to this pretty landscape, the manner of running the water through the orange groves is shown. The whole is a faithful presentation of the country in miniature.

The California exhibit in the Forestry building is considered by experts to be one of the best displays in this building of woods, if it is not the very best. The plank from the Fresno Flume & Irrigation Co. always attracts attention.

The educational exhibit is enclosed in a framework made entirely of California redwood, with graceful arches between the pillars. It is not only very handsome in design, but original, and the redwood in particular does much to give it a distinctive appearance. Fresno county has distinguished itself in this exhibit. Mr. Furlong, the chief of the department of education, told me that Fresno has done itself proud and is one of the leading counties in school work.

Our mining exhibit is just about complete now. It consists of an archway constructed of granite from California with the name of the State on the top. The minerals from the State are exhibited in glass cases. The borax pagoda is one of the features.

The grounds surrounding the California building come in for much favorable comment. The plants used for ornamenting the grounds were furnished by Golden Gate Park, San Francisco; the Stockton State Hospital, Stockton; Fancher Creek Nurseries, Fresno; R. M. Teague of San Dimas, whose orange trees, now in full bloom, naturally are of great interest to people from the East who have never seen orange trees in bloom. The grounds have been laid out to represent a California garden, and the palms and other evergreen trees give an effect typical of California conditions.

THE DAIRY.

Sanitary Milk and Its Production.

In view of the question raised by Mr. Edward Berwick in the last issue of the PACIFIC RURAL PRESS as to the soundness and desirability of current reforms in milk handling, it is timely to see what can be said in behalf of the new order of dairy things.

Prof. R. A. Pearson, who was formerly with the United States Department of Agriculture and is now of Cornell University, has prepared the following review of the situation:

SANITARY MILK.—It is only within the last ten or fifteen years that we have heard much about the need for more sanitary milk for our markets. And it is only within the last five or ten years that we have seen much accomplished along this line. The old idea of pure milk — and this idea still prevails in the mind of the majority — was that it should be unskimmed, unwatered and free from foreign substances, such as coloring matter and preservatives, besides being sweet, free from bad flavor, and reasonably clean. Little else was considered. This view, which now is seen to be very insufficient, has been carried into the laws governing market milk and into the official milk control, and often to such an extent as to exclude attention to equally or more important features.

The new idea of market milk gives special weight to its sanitary condition. Bacterial contamination is not considered less important than faults in composition, although the latter have so long been held foremost. It is found that the wholesomeness of milk is affected by the manner of its production. It is an article exceedingly well adapted to bacterial life, and, as dairy work is ordinarily carried on, there are literally scores of ways by which the tiny organisms obtain entrance. Certain pathogenic bacteria find milk an ideal habitat. If they are conveyed to it by a sick person or animal or by a person who has come in contact with a patient suffering with a contagious disease, or if they are conveyed to it by water used to rinse the milk utensils, or otherwise, they may infect the milk consumer. But such contaminations are not common, and harm from them is far less than that due to the many forms of non-pathogenic bacteria that cause milk to sour, putrefy and undergo other changes, some of which are uot observed until their evil effects upon the consumer are in evidence.

BACTERIA.—Milk produced and handled iu a careless manner will be found often to contain a million or more bacteria per cubic centimeter — so rapidly do they get into milk when conditions are favorable, and so rapidly do they multiply after entrance.

But one who will follow the rules of sanitary science in the management of his dairy can easily produce milk which will contain only about one one-thousandth as many bacteria as just named and with reasonable certainty that pathogenic bacteria are wholly excluded. Is it worth while to make such milk? It means a high grade of intelligent management and some increase in cost for labor.

THE CHANGE.—The future for this advanced or modern branch of dairying is promising. The change may seem to be coming slowly, but when one compares the situation of to-day with that of fifteen years ago, it is seen that much progress is being made. Then it was a great exception to find a dairy conducted in a strictly sanitary manner; indeed there was none to equal numerous dairies supplying milk to many of the larger cities at the present time. One evidence of the increase in the number of these "sanitary" dairies is the fact that during the last few months the Cornell Dairy School has been asked to recommend more of its students than were available for responsible positions in these places.

The public is being slowly educated to see that the public health depends in large measure upon the character of the milk supply, and gradually a demand for better milk is being developed. To more than anything else, this change is due to recent extensive bacteriological investigations of market milk and the attention recently given the subject by physicians and other scientists who have observed in actual tests the advantages of sanitary over unsanitary milk.

Within the last decade numbers of reports and general articles have been written upon this subject and they furnish convincing proof that the quality of much of the milk supplied to the cities is not as good as it should be.

BETTER PRICE FOR BETTER MILK.—It would seem that any dairyman or milk dealer making an earnest effort to furnish a good, clean article of milk and to serve it in a reliable manner, would have more trade than he could attend to. Unfortunately, this is the case only in exceptional instances. Perhaps the chief drawback is the unwillingness of the public to pay a fair price for high-grade milk. Every one acknowledges the importance of milk as a food product, and of course it is well known that it is often the exclusive diet of young and delicate children and of invalids, and that it is generally used in the State, yet very few will pay enough extra for their milk to enable it to be produced in a way that would satisfy them, if they would take the trouble to look into this important phase of the busiuess. This seems the more remarkable when it is remembered that the public appreciates and is willing to pay for high quality in almost all other commodities. In countless households there is never a thought of purchasing any meat but the highest priced cuts, or any food other than the best the market affords, except milk, which is looked upon as being the same wherever it comes from or whoever sells it, therefore a low priced milk is sought. Every householder ought to know that milk is a most delicate product and subject to many kinds of coutamination in many different ways, and if these are to be considerably reduced or entirely avoided, the cost of production will be increased. And the cost will be increased in constantly greater and greater proportion as the contaminatiou is decreased. Up to a certain point many dairymen could improve their milk without noticeable increase in the money cost of production.

But even this improvement should be paid for by the consumer, because it is the result of extra, intelligent effort and supervision, which are high priced commodities. When so high a quality of milk is wanted that much extra labor is required in its production, in order to reduce bacterial contamination just as far as possible and assure a wholesome consumption at all times, then the cost of production is increased 1, 2 or 3 cents or even more per quart. The increased cost is due to increased vigilance over the health of the cows and of the employes who handle the milk; the increased labor of keeping the cows and their surroundings and all the surroundings of the milk clean and in good order; the thorough sterilization of all utensils; the frequent renewal of utensils; and the use of an abundance of ice. Almost every one would want his milk handled in the most approved manner as indicated, if he were familiar with it and the usual procedure. Up to the present time only a small part of our population has been couverted to the new idea, but the subject is constantly getting more and more attention, and it has been developed far enough to prove that the movement for better milk will continue to go forward and not backward.

One of the most efficient agencies for promoting the interests of sanitary milk is the so-called milk commission. Such commissions have been organized in some of our larger cities by physicians who are interested in pure milk, primarily because they want it available for their patients. The commission closely supervises the production of milk at dairies operated under the terms of an agreement that insures a first-class product and gives its official approval to such milk, thus removing much cause for doubt that would naturally come into the mind of the consumer as to whether or not the milk was really produced in the manner proclaimed

Cleanly Milking.

TO THE EDITOR:—In the last number of the PACIFIC RURAL PRESS a correspondent speaks of the fuss being raised about keeping milk free from microbes, etc. I believe this is all right if we go about it in the right way. But cleansing stables and milk rooms, scalding and sunning milking utensils, will not avail if the milker himself does not milk in a cleanly manner. Therein, I believe, lies all the trouble. The majority of milkers are foreigners not brought up with any too cleanly habits. The milker goes to his milking with unwashed hands and as he milks dips his fingers iuto the milk to moisten the cows' teats that he may milk the more easily, allowing the milk to drip off his fingers into the pail carrying the dirt and filth from the cows' teats into the milk. This is where you get your germs of disease. This practice of milking once formed is never broken, as I found out by unfortunate experience. The only way I can see out of the difficulty is to procure milkers whom you can trust. At least this is the opinion of a

Acampo. FARMER'S WIFE.

ENTOMOLOGICAL.

Hunting the Peach Borer in South Carolina.

California peach and prune growers in districts where the crown borer prevails will be interested to know what has proved the best treatment in South Carolina, as described by Mr. C. C. Newman in a recent bulletin of the Experiment Station of that State. We give the dates just as Mr. Newman presents them for his State, and readers are advised not to depend upon them for California, because it is likely that the active season of the moth is longer with us.

PREVALENCE AT THE SOUTH.—I doubt if there is a peach orchard in the South that is not more or less infested with this destructive insect pest. In fact, it is difficult to find a peach tree that is three or four years old that has not been attacked by the peach tree borer. Experiments with different methods of destroying the peach tree borer have been under way at this station for the past five years. During this period many methods have been tested, some of which have given good results, while others have done little or no good.

It is not the intention of this bulletin to discuss the many methods tested, but rather to give directions for applying the remedies that have proven to be the most satisfactory, and to show the importance of having this work thoroughly done and at the proper season.

DIRECTIONS FOR FALL AND SPRING.—About the middle of November the soil is removed from around the base of the trees down to the large roots with a sharp-pointed hoe and trowel. The trees should then be examined carefully, and if any borers are found they should be cut out and destroyed A heavy pocket knife, a trowel and a piece of flexible wire are very convenient tools for this work. [More effective tools are used in California, as we have previously described.—ED.]

In November most of the borers will be about half grown, but some of all sizes will be found. After the borers have been dug out, the rough bark on the body of the tree is scraped off and the wash applied to the body and exposed roots with an old paint brush. Care should be taken that every crevice in the bark is thoroughly covered with the wash. After the wash has been applied the soil is drawn back to the roots of the tree and banked 6 inches high around the base.

DON'T LEAVE ROOTS EXPOSED.—This treatment is repeated again in the spring, not later than the middle of March. Great care must be taken not to expose the base and roots of the trees any longer than necessary at this season of the year, as the moth will soon appear and begin to deposit her eggs. The trees should be "wormed" as soon as the soil is removed, the wash applied and the soil returned to the roots as soon as practicable. This prevents the possibility of the eggs being deposited while the roots are exposed. This is an important point and should be closely observed.

I have known growers to remove the soil from their trees in the summer and allow the roots to remain exposed and at the mercy of the moth for weeks at a time.

The same care must be exercised in the fall as in the spring, as the moth frequently appears late in November, if the weather remains warm for a few days at a time, as it often does during November in the South.

I have frequently observed the moth depositing eggs on the body of the trees during the first week in November, and, although it was cold enough for frost, the moth moved actively about from tree to tree.

If the roots are exposed for "worming" or "digging out" the borers between the middle of March and first of November, the chances are that great harm will result, as the moth is actively depositing eggs from early spring until late fall.

EXPERIMENTS WITH THE WORMING AND WASH PROCESS.—The greatest care has been taken in the treatment of all the trees in this test. The worming has been very carefully done and every part of the body aud base of the trees thoroughly covered with the wash.

There is great importance in using a good wash in connection with the worming process. Where the worming is done in the fall there are a great many very small borers, and it is impossible to locate them all. At this stage they are near the surface and can be reached with the wash. The wash destroys the eggs and small borers just hatched which are not destroyed by hand. The wash used after worming is as follows:

Quicklime, pounds	20
Whale oil soap, pounds	3
Sulphur, pounds	4
Paris green, pound	¼
Water, gallons	25

The wash is very inexpensive and can be applied very rapidly. Twenty-five gallons is sufficient quantity to wash 325 eight-year-old trees. These trees were headed 2 feet high and will average 6 inches in diameter 1 foot from the ground.

Trees that are kept free from borers while young will require much less time in after years at worming season than trees that have been neglected and the borers allowed to make great scars and holes about the body and large roots. It is difficult to locate the borers in such trees, as these holes make good hiding places for them. If good results are to be obtained in working once neglected trees, much time and care must be taken in worming and applying the wash, in order that the treatment may be thorough.

DIRECTIONS FOR MAKING WASH.—Dissolve the soap in three gallons of hot water. Make a thin paste of the sulphur and of the Paris green and add to the soap solution. While the lime is being slacked in a half barrel the mixture is poured over it and the whole gradually diluted to twenty-five gallons.

The wash is now ready for use and should be applied while warm for best results. It can be rapidly applied with a stiff paint brush about 3 inches wide.

This wash sticks well to the body of the trees and remains longer without cracking than any I have ever used.

I have used this wash much stronger than is rec-

ommended above, and have never had any injurious effects result from its use.

In the South the roots are frequently left exposed for four or five days after being wormed, the trees are then gone over the second time and the soil returned to the roots. This practice is not to be recommended unless it is done between November 15th and March 15th.

AGRICULTURAL ENGINEER.

Good Roads by a County Commissioner.

By C. A. Day, Highway Commissioner of Los Angeles County, in the Monrovia Messenger.

In modern road engineering three things are considered important in road construction—foundation, surfacing and drainage. The foundation may be of compacted and well dried earth. On this a surfacing material should be used which will be durable, impervious to water and form a fine, smooth, even surface, that with proper care will be free from dust and mud.

For perfect drainage, the road bed should be brought to a crown that will give sufficient slope to the grade to readily drain all the water which falls on the roadway into the gutters, and the running lineal grade of the road should be such as to cause a free flow of water in the gutters; this water, at the first opportunity, to be turned into the channels leading away from the road.

Difficulties.—In this section asphalt, rock and oil are available for road surfacing. The asphalt makes a good road; but it is expensive in construction, is expensive to keep clean and is not always free from dust.

Macadam or broken rock makes the best of roads, but requires constant sprinkling with water to lay the dust and to prevent the dry surface being pulverized by travel.

The pulverized material is washed away by the rains or blown away by the wind, and in time from this waste the surface material becomes worn and thin and has to be renewed.

Oil Approved.—The application of a coating of oil and sand will form a surface that will not pulverize into dust, and will save the cost of sprinkling and the eventual renewing of the macadam surface. Oil and sand, or earth properly mixed, will form a road surface that will protect the earth foundation from water. This surface, impervious to water, will be firm, smooth, even and free from dust and mud. An earth foundation brought to a crown, well compacted and dried out and oiled, will make a permanent good road that with an annual oiling will require no sprinkling and be free from dust and mud. Oiled roads cost less to construct and maintain and are as durable as asphalt or macadam.

The annual oiling is very much less expense than sprinkling with water and saves the water for other purposes.

The oiling of roads is, in a measure, in the experimental stage, but steady improvement has been made, and it has been fully demonstrated that oil will make a good, enduring road.

Advantages.—The advantages of an oiled road are its cheapness, durability, freedom from dust and mud and less expense to maintain than any other permanent road.

The earth road, as compared with oiled roads, is more expensive in maintenance and not so good. It requires constant sprinkling in dry weather to lay the dust and prevent rutting and the forming of chuckholes, and in rainy weather is always muddy. The soft, muddy surface ruts and the slope of the grade is cut into little channels by the action of the water and the earth is washed away. To maintain an earth road in fair condition requires constant regrading and filling of holes, and then it is not in any way equal to that of the oiled road.

While the first cost of an oiled road may be more than that of an earth road, the durability of the oiled road, the less cost of maintenance and its superior excellence make it much more desirable under all circumstances. The principal objections to the oiled road have been the oil mud at time of construction, the scent of the oil and the elastic surface, which increases the draft for loaded vehicles. The oiling of one-half of the road and closing this to travel until completed will remove this last objection.

The scent of the oil is most in evidence when a large amount is applied when the road is constructed, but the volatile parts soon evaporate and the scent is less perceptible.

As to the elastic surface and increased draft of loaded vehicles, this is only true when the road is first constructed and a large amount of oil is used. With age and the evaporation of the moisture the road becomes firm and solid, and the draft is no more than on other good roads.

The smooth, even surface and the freedom from dust and mud lessens the draft very much, as compared with the earth road. Oil should never be applied to a flat or uneven surface; but, when used on a properly prepared bed, makes a permanent road that will not require regrading.

Oil Will Prevail.—The solution of the good road problem for this section I believe to be oil for country roads and city streets where the property owners are not able to afford asphalt or macadam. To maintain earth, granite or macadam roads in good condition, either oil or water must be used. Oil will be cheaper and will save the water for the irrigation of orchards, home grounds, gardens and for domestic supply. The water thus saved will practically increase the available water supply that much and render possible the further development of the fruit industry and the making of attractive home places. Water is too important a factor in the development of the natural resources of this section to have it wasted in street sprinkling when oil can be used as a good substitute. The oiled roads of north, east and south Pasadena have given good satisfaction to the people of these localities, and the oiling of them has saved a large amount of water to the Pasadena water system. The best oiled roads are those finished with a surfacing of oil and sand, mixed in the right proportions to form a firm, hard surface, nearly, if not quite, equal to asphalt.

THE SWINE YARD.

Tuberculosis in Hogs.

A bulletin just issued by the Oklahoma Experiment Station discusses the occurrence of tuberculosis in hogs, and though we are not aware of any trouble from this source in this State, it is well that our swine ranchers should know the danger in it. Dr. L. L. Lewis, the veterinarian of the station, says there has been considerable experimental work done to prove the transmissibility of tuberculosis from cattle to other animals. This work has been carried on principally with hogs and smaller experimental animals, such as rabbits, guinea pigs, etc. Sufficient experimental work has been done in this line to prove conclusively that hogs are easily infected with the disease. This is demonstrated when hogs are inoculated with tuberculous material from diseased cattle or when they are fed milk containing the tubercle germs. When the virulence of the tubercle germ from the human being and cattle is compared by inoculating them into the lower animals, such as hogs or rabbits, it is found that the germs from cattle are much more virulent, as a rule, than those obtained from man, and in nearly all cases where cultures of germs from cattle are used, either for inoculation or feeding experiments, the result is to produce tuberculosis in the hog.

Prevalence of the Disease at the East.—Very little interest is manifested in regard to the prevalence of tuberculosis among hogs; but it is becoming a very important disease and measures calculated to reduce its prevalence should be taken. Statistics furnished by meat inspectors at the various abattoirs, and published in the last three reports of the Bureau of Animal Industry, indicate the general prevalence of the disease as well as show that it is becoming more prevalent. The figures indicate the number of post mortem inspections and the number of carcasses condemned at official abattoirs.

In 1900, 23,428,996 hogs were inspected; 4379 entire carcasses and 1061 parts were condemned.

In 1901, 24,720,482 hogs were inspected; 8650 entire carcasses and 44 parts were condemned.

In 1902, 25,311,781 hogs were inspected; 14,927 entire carcasses and 4700 parts were condemned. This loss from inspection at the abattoir is greater than that of any other disease except hog cholera and swine plague combined, the loss by inspection from these two diseases being in 1902 16,980 head.

Feeding Tuberculous Milk to Swine.—In an experiment in Oklahoma the milk was fed to pigs in considerable quantities for about two months. A portion of the hogs were tested with tuberculin, the first test being made in May; the others were made at intervals following this. On May 1st one of the hogs died, and a post mortem examination showed the cause of death to be generalized tuberculosis. Notes taken at that time are as follows: Male pig, weight about 150 pounds, physical condition fair. Tubercles were abundant in liver, spleen and lymph glands. The lungs were almost a solid tubercle. Adhesions over a large part of the pleural surfaces.

Appearance of the Disease.—The appearance of the lesions of tuberculosis differs in the hog from the general appearance seen in cattle. In the hog the tendency is almost without exception to undergo calcareous degeneration. In none of the cases examined were the tubercles in a condition to break down and cause cavity formation. In the one case that died from the effect of the disease the lungs were almost a solid mass of tubercles, and in the center of some of these there was a purient-like material. When the knife is passed through the tubercle there is a gritting sound, as if the tissue was filled with sand, and in alcoholic specimens it is necessary to infiltrate and work as soon as possible in order to section for microscopic examination. In a few instances abscesses were found near the surface of the body and these were filled with a yellowish-white pus which in one case had become dry and hard.

The effect of tuberculosis on the physical condition of the hogs was not very marked. Some of the animals that showed a generalized condition of the disease at the time of post mortem examination had the disease almost a year and they were in apparent good physical condition. In the one that died from the effect of the disease the physical condition was not such as to cause suspicion of generalized tuberculosis. In fact, the entire lot of diseased hogs were in a marketable condition so far as flesh was concerned, and a number of them were killed under official inspection, their condition being such that they were considered fit for market. Forty-four hogs were subjected to official inspection at the abattoir and twenty-one, or 47.72%, of them were condemned as tuberculous. None of them were subjected to the tuberculin test.

Tuberculin Test.—The test with tuberculin was made in order to determine the value of this agent in diagnosing tuberculosis in hogs. Very few tests of this character have been made, and it is desirable to know if tuberculin can be used to diagnose the disease in hogs with the same success as it is used to determine the presence of the disease in cattle. In order to save handling and, consequently, worrying the hogs every time the temperature was taken, they were kept confined in shipping crates. Even with this precaution, the scuffling and worry of the animal often caused a rise of temperature of from 1° to 3°. From the experience gained in this test, it is evident that the temperature following the injection of tuberculin can not be relied upon always to indicate whether the animal is tuberculous or not, especially when the work is done in warm weather or when the hogs are not accustomed to being handled. It was found by actually testing the temperatures that the least excitement or worry would cause a rise of temperature.

THE POULTRY YARD.

The Belgian Hare Is Heard From Again.

The World's Fair offers seventy-two prizes for Belgian hares, which gives especial interest to this claim for them which an Indiana breeder writes to an Eastern journal:

"What has become of the Belgian hare?" is a question you frequently hear asked, and occasionally you meet a person who thinks they have been wiped off the earth; and it can be truthfully said had this little animal not had qualities to recommend it, it never could have survived the many body blows and drawbacks heaped upon it by the scores of hucksters that were in the business a few years ago during the boom that swept the country. A gang of fellows worked the innocent buyers to a finish. All sorts of stock, regardless of shape, color or size—anything or everything that resembled a rabbit—was sold for a Belgian hare and at all kinds of prices. The result was that when the people woke up many could not tell what had happened, and for their pains and money all that remained in many instances was a lot of sickly white-legged mongrels.

It is true there were in the country some genuine Belgians and really good specimens; but this class of stock was rarely offered for sale, and, when they were, the prices asked were so high that few changed hands, as the owners preferred to keep them.

Reaction set in and hundreds who had invested hundreds of dollars in the business dropped out of sight. Yet, in the face of these facts, this valuable little animal has again made a bid for public favor, and to-day is on a sounder foundation than ever.

That the Belgian hare has come to stay and is no longer an experiment there can be no question. This country has to-day better specimens than England, and there are a few breeders who have bred them for years with care and profit. The demand to-day for real good specimens, pedigreed and true to name, is greater than the supply, and the demand is growing every day. But the day of coarse, cheap stuff is passed. Prices, it is true, are not so high, $50 to $75 being a very common price for a single specimen four years ago. To-day a better animal can be bought for $7 to $10, and at these prices there is big money in the business. There is no stock business—amount of capital invested—that will bring the returns that Belgian hares will, not only from a fancy view of the business, but raising them for market as well; and the only reason that there is not a general demand for them is that hotel keepers and restaurants never know where to get them.

Early Maturity.

To the Editor:—Early maturity of pullets means eggs at a season when they bring good prices, and it is desirable to have them lay as early as possible, when coupled with size and strength.

These latter features must be maintained, if one is to have a flock with anything like standard requirements to distinguish them from the mongrels.

That this can be done, and without sacrificing in

any direction, is proven by the showing of competent breeders of all varieties of thoroughbred fowls, the few requirements being steady, vigorous growth from shell to shell, without forcing at any stage, neither allowing the youngsters at any time to know the discomforts of extreme hunger for lack of proper attention.

Started on dry feed, fed regularly as a balanced ration unlimited green food, has given me pullets that laid their first eggs on June 21st—5 months 8 days old—three celebrating on the same day, and weighing 4¾, 5 and 5¾ pounds, respectively, single-comb Buff Orpingtons, and five months to attain standard weight (7 pounds) for December show.

Agnew, Cal. W. S. SULLIVAN.

Agricultural Review.

Alameda.

GRAPE CROP. — Livermore Herald: The indications now are that with reasonably cool weather for the next few weeks the grape crop will be equal to that of last year. For a time it appeared that the yield of the phenomenal crop of 1887 might be reached, but couleur prevails to a greater or less extent in all the vineyards and a few days of north wind added its blight, and the yield will consequently not be as large as was expected a month ago. There is nothing discouraging in this, however, to the ordinary grower, as a large crop necessarily means a reducod price with the immense quantity of wine still in the cellars of the large dealers. Tbe question of price is now disturbing the growers. Several of the largest buyers of grapes in this section express the opinion that there will be a slight reduction. Most of them incline to the belief that it will not be more than $1 a ton, although one prominent grower expressed the opinion that black grapes will not bring over $12 a ton ton during the present season. The "myterious disease" continues its ravages in the local vineyards. In some localities this disease has been very marked, while in others it has made practically no headway. Taken as a district, the disease is making serious inroads upon tbe vines, and as it attacks resistant as well as the original stock, and yields to no treatment yet discovered, it has occasioned no little alarm among the growers.

HAY GROWERS UNITE.—While a number of farmers have had their entire hay crop baled and are ready to begin hauling, they have been unable to make a move, as tbe prices offered thus far have not met their expectation of what good hay should bring this season. None of the dealers are in the market in earnest as yet, each appearing to be waiting for the other, but a break is expected to be made very soon. The growers maintain that gilt-edge wheat hay should bring $12 a ton at the warehouse.

Fresno.

APRICOTS AND PEACHES. — Sanger Herald: That our orchardists will realize a good price for dried fruit this summer goes without saying. Dried apricots are selling at 6@7c per pound, and buyers are offering to contract for peaches at 5@6c. One buyer frankly acknowledged that the dried fruit market justified a minimum price of 6c for peaches, but a lot of Swedos and Armenians living around Kingsburg had accepted offers of 5c, consequently the packers would not offer more at present. There is an abundance of fruit of nearly every kind, except apricots and pears. One of our orchardists, who has 11 acres of apricot trees, has disposed of the crop for $1200—a good price.

SOME POTATOES. — Laton Argus: Isaiah Fike brought to town on Monday nine potatoes which weigh seven pounds. The largest spud measures 9 inches around the small way and 16½ inches the long way around. They are a new variety in these parts, named the Early Michigan, are smooth, white and firm, and were grown on new land.

Humboldt.

CREAMERY PRICES.—Arcata Union: Creameries in this vicinity paid in June as follows: Arcata, 15 days, 18½c and 15 days, 20c; Premium, 19c, and Peterson & Laurenson, 20c. Eel River Valley Creameries paid as follows: Abramson, 20c; Capitol, 19½c; Cold Springs, 20c; Crown, 19¾c; Eel River, 21¼c; Excelsior, 20c; Friel, 19½c; Ferndale, 19½c; Grizzly Bluff, 20½c; Independence, 20c; Red Poll, 20½c; Riverside, 20½c; Silver Star, 20½c, and Alton, 19c.

Kings.

FRUIT PRICES. — Lemoore Leader: There has probably been more competition in Kings county, in the purchase of dried fruits, at the opening of the season's business this year than ever before. There are many buyers in the field, and the result of the competition is that peaches and apricots are in great demand. Nearly all the apricots have been purchased, at prices ruling as high as 7½c per pound. Peaches are hovering near the 7c mark. Evidently the prices of all dried fruits are going to be good this year, except possibly raisins, the price of which is still problematical.

Madera.

BLACK LEG AND TEXAS TICK.—Tribune: F. E. Twining, stock inspector, reported that he had found a few cases of black leg and two cases of glanders and had the afflicted animals destroyed. There has been considerable complaint regarding the importation of cattle from Texas, but they could not be kept out, as they had been reported healthy by the Government Inspector at El Paso. An application had been received from a tick infected district, but would be denied. Infected animals on the Columbia ranch were being treated by dipping in oil.

Mendocino.

WOOL SALE.—Ukiah Dispatch-Democrat: Most of the spring clip of wool delivered at this point was sold recently, and the bulk of it brought 22c a pound, which is the best price obtained for some time. The weight of the wool stored in Lucas Bros. warehouse was 176,077 pounds and about 1000 pounds of mohair. At 22c this would distribute nearly $40,000 among the wool growers who deliverod their product at Ukiah.

Orange.

MONEY IN CELERY. — Anaheim Gazette: Following are figures taken from the report of tbe secretary of the Peatland Celery Growers' Association: Number of cars shipped by the association, 1507; total number of dozens, 1,841,149; amount received for same, $293,817.69. Expenses for season: Expense account, $359.42; salary account, $1964.12; stationery, $27.55; total expenses, $2351.10. Interest recoived on loans, $1157.99; interest on money borrowed, $839.34, $318.65; net total expense, $2032.45. Loss on loans, $1303.30; total expenses, including losses (.0018¾ per dozen), $3335.75; claims against railroads, pending judgment, $16,284.86. Number of growers and land owners, 163. Figures on twenty-five cars shipped for individual account of growers not included in above statement.

Riverside.

POOR YEAR FOR DRY RANCHES.—Perris Progress: Although crops grown without irrigation this year are vory discouraging, yet there will be considerable hay and grain. Both combined harvesters and stationary threshers will be used. Some ranchers have sold their growing crops to sheepmen, and some to cattlemen. It is a bad year for dry ranchers, but could be worse.

San Bernardino.

SPRAYING FOR RED SPIDER.—Times-Index: Horticultural Commissioner Pease has returned from a trip to Oak Glen, whither he had gone to note the result of spraying operations last year and see whether it would bo necessary to spray the apple trees at this season. He is well pleased with the result of his observations, saying that the apple trees are in healthy condition. Concerning the pest popularly known as the "red spider," an insect effecting orange trees, for the extermination of which two preparations were used in spray last year, Mr. Pease noted that salt, lime and sulphur were mucb more effective than the distillate, but that good work has been accomplished with both preparations. He regrets that the distillate is not as efficacious as a spray for the insect in question, owing to the fact that it is much more readily prepared than the salt, lime and sulphur, but says that he has not yet completed his experiments in that direction.

San Joaquin.

PEAT LAND GRAIN INSURED.—Stockton Independent: Most of the grain fields on the peat lands of the reclamation district have been insured, notwithstanding an ungrounded rumor to the effect that the underwriters will not accept risks on peat land grain fields. Two years ago the rate on grain on reclaimed peat lands was 5% per year, or 2% for three months. Last year the rate was dropped to 4% per year, or 1.6% for three months. This year's rate is 6%, or 2.4% for three months. While the rate is rather high, still the grain growers in most instances considor it a good investment to protect their crops with insurance against fire.

FIRST DRIED APRICOTS.—Lodi special to Sacramento Bee, June 23: The first dried apricots—a ton and a half—of the season were shipped out Tuesday, and from now on heavy shipments will be made. The sheds are running full force in northern San Joaquin, and it is estimated that 800 people, including men, women and girls, are employed. Acampo shipped a car of peaches and apricots this week, the first full car of tree fruits to leave this section. Heavy shipments are being made from Lodi, but not in full cars. It will only be a short time until all the fruit agents, of whom there are six in Lodi, will be sending out green fruits in car lots.

PROFIT ON ONIONS.—Stockton Record: John Arata, a farmer on tbe Hildreth tract, east of Stockton, bas cleared $500 an acre this year on onions on tbe small patch of ground he farms, and is now engaged in planting the ground to other crops. He expects to make his land bring him $700 an care gross this year.

Santa Barbara.

APPLE CROP A FAILURE.—Lompoc Record: Many of the chiof orchardists in the Lompoc section have been interviewed and the universal reply is that there will not be a fifth part of tbe usual crop of apples. There is not a single variety that is at all up to tbe average of a fairly good yield, and many varieties are a total blank. Just the cause of this peculiar condition is not known at this time, yet there are causes tbat in part contribute to the scarcity in some varieties, such as mildew on the Bellefleur, which was so shy in production last yoar because of this condition, which has appeared again this year and spread to other varieties. But there are orchards that do not show any great amount of mildew that are equally short in production. The experience of I. M. Clark in spraying last year with distillate, followed with a caustic soda spraying, has acted as a resistant of the mildew or other cause of tbe apple failure and imparted both vigor and production. Mr. Clark sprayed one of two trees of the same variety last year, and the tree thus sprayed is in full and perfect fruitage, while the tree not sprayed is without a single apple set.

Santa Clara.

CHERRIES AND APRICOTS.—Gilroy Gazette: The cherries have all been harvested and the next will be apricots, which are coloring. Some of our orchardists have sold their apricots for $17 a ton for all sizes.

Siskiyou

EXCELLENT CROPS.—Yroka special to Sacramento Bee: The farmers are very jubilant throughout this section this season, as the crops aro unusually large and of superior quality. The grass on the ranges is exceptionally good, and promises excellent hay crops and an abundance of feed for the grazing stock. The fruit crops will be unusually large, especially the apple and pear crops, of which this section produces an excellent quality. The berry and vegetable growers throughout the county are also having a good season.

Sonoma.

PRUNE GROWERS POOL.—Healdsburg Tribune: The prune growers of the Healdsburg section are organizing to pool their fruit. The pool will be operated by a board of directors elected from among the members, and is to be organized for a period of five years. The members will be secured many advantages in the sale, storage and shipping of their fruit. As fast as a wagon load is dried it will be hauled to the packing house and immediately prepared for shipment. One specialty of the pool will be to establish brands for fruit which will, when established, command a special price on their merits. For instance, "Russian River" brand of prunes will be packed from the best grade of fruit raised on the bottom lands of this section.

Sutter.

LIGHT GRAIN YIELDS.— Yuba City Farmer: The oats and barley yield is away below the average, the dry north wind having shelled the oats and pinched the barley. Very little wheat has been cut yet, but the average is not over ten sacks per acre for summer-fallowed grain, and much less in many instances. The quality is also impaired by being shrunken. Taking it all in all, as near as we can learn, the crop this season will be about half what the county usually produces. The orchards will turn off a light crop also, ith the exception of prunes and pears. The grape crop, as near as can be judged at this time, is good, both in the wine and raisin varieties.

APRICOT CANNING.—The Sutter Preserving Co. commenced work on apricots Wednesday and a force of about 200 hands is employed. Tbe fruit comes from the Parrott orcbard, near Chico, and is of good quality. It is estimated that the crop will amount to 300 tons, which means in the neighborhood of 15,000 cases of canned goods. About two weeks will be necessary to take care of tbis fruit, and by that time the early plums will be ready for canning. This company has also contracted for the cling peaches from the same orchard, amounting to about 200 tons. A long, steady run at this cannery is now insured.

Tehama.

PEAR BLIGHT. — Corning Observer: Prof. Randolph Smith of the State University has been in Tehama county the past few days investigating the poar blight, and in company with A. W. Samson has covered nearly the entire county. Mr. Smith gave no encouragement for preventing the spread of the blight except in one way. That was to cut off the limbs below the affected part and burn them. If this is not done and the blight is allowed to spread, the entire crop will wither in a few days.

Tulare.

LITTLE GRAIN.—Porterville Messenger: Daniel Malloch, grain buyer for Balfour, Guthrie & Co., speaking of the grain crop in tbe southern part of the county, says thore is practically no grain at all. At the Balfour-Guthrie ranch, this side of Porterville, comprising 4500 acres, the crop will go from 2 to 2½ sacks to the acre. Tbere was not as much seed planted as usual this year in the southern part of the county. In the Alta country it is different, however. Mr. Malloch thinks the crop will average there about seven sacks to the acro and somo tracts will yield as high as fifteen. About the usual amount was planted this year in this section.

Ventura.

BIG IRRIGATING PUMP.—Oxnard Sun: E. Hill has started the big pumping engine on the Hill ranch adjoining town. Tho well is one of the best in the valley. It is 180 feet deep, has a 7-inch pump, whicb is worked by a 28 H. P. gasolino engine. It forces a stream of water 14 inches wido by 5 inches deop which amounts to something like 1500 gallons per minuto. The reservoir is 4 foet deep and covers exactly an acre of ground. After the ground is well soaked up the pump will fill the reservoir in ono night, so that an almost constant use of the water is required. The water is now being usod by Mr. Bither and Mr. Schmitz to irrigate beets and when they are through Mr. Hill will flood his fine field of beans adjoining the pumping plant.

Yuba.

ONE MILLION CANS READY.—Special to Sacramento Bee: Over 1,000,000 cans are in readiness for the packing soason of 1904 at the Marysville cannery. Owing to the fact that the Association has determined not to operate their other canning establishments in this section, there will be a long and lively run at abovo cannery, which will mean employment for a large number of women and children. ——The cannery at Yuba City has commenced operations. About 200 women and children are at work on apricots.

Horse Owners! Use

GOMBAULT'S



Caustic Balsam

A Safe, Speedy, and Positive Cure

The safest, Best BLISTER ever used. Takes the place of all liuaments for mild or severe action. Removes all Bunches or Blemishes from Horses and Cattle. SUPERSEDES ALL CAUTERY OR FIRING. *Impossible to produce scar or blemish.* Every bottle sold is warranted to give satisfaction Price $1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars.

THE LAWRENCE-WILLIAMS CO., Cleveland, O.

Colony Tracts in Stanislaus County.

We are laying out two Colony tracts, one close to Modesto City, in that Irrigation District, and one in the country part of Turlock District, 5 miles south of Ceres. In both of them we can sell you good land, in small lots, on terms to suit. If that is what you want, we shall be pleased to hear from you.

MAZE & WREN. Modesto, California.

GREENBANK BEST PRUNE DIP. POWDERED 98% CAUSTIC SODA. PURE POTASH.

The Home Circle.

The Song of the Firecracker.

With a fizz! and a boom! and a bang!
With a bang! and a boom! and a fizz!
Oh, this is the song the firecracker sang,
With the boom! and the bang! and the fizz!

"From the farthest of far-away lands,
From the land of the rice and bamboo,
By the cunning Chinee with his dexterous hands,
We are molded and fashioned for you.

"Would it seem like the Fourth of July
Without our explosion and noise?
Oh, the men on parade march quietly by,
But the crackers belong to the boys.

"There's no need for the sun to arouse
All the world on this Fourth of July,
For we're up and we're off, though the grown folk may drowse;
We awake the whole land when we try."

With a fizz! and a boom! and a bang!
To the very last sizzle and sigh,
Oh, these are the words that the firecracker sang:
"Hurrah for the Fourth of July!"

—From the July St. Nicholas.

Home-Made Torpedoes.

John Hancock Greene was five years old, and had a grievance. His sister, Mariannina, was half-past six. It was Fourth of July, and all the other boys had firecrackers, but Johnny had none.

But though there were no firecrackers, there were six packages of torpedoes that Uncle Joey had bought for him and Mariannina. At first Johnny said he would take but one package; torpedoes were only for girls, anyhow. Like a martyr he singled out the smallest bag, and put five into his sister's pinafore. Sadly the two went out into the back yard.

"We'll take turns out o' mine first, Ninny," said he. "First I frow, den you.

"P'r'aps, after all, we'd better keep the bags all sep'rate." Johnny went on to say. "I take half the bags, and you take half."

But even with this careful management the torpedoes were soon gone.

Suddenly Mariannina had an idea. She picked up the torn cover of one of the exploded torpedoes. It was common white tissue paper. She examined its contents. The torpedoes seemed to be made of sand and salt and things.

"Johnny," cried she, "supposing we make some torpedoes!"

"I don't believe dey'll torpede," answered Johnny, gloomily.

"We can't tell till we try," said Ninny. "I've got plenty of tissue paper that came in the box with my beautiful wax doll."

"Oh, yes," said Johnny; "but what's de stuffing made of?"

"What should you think it was?" asked Ninny.

"Looks like sand and gravel," replied Johnny. "But sand hasn't got any fire-bang to it, 'cause I've frowed it ever so many times."

"Perhaps red pepper would help," suggested Ninny. "Anyway, I'm going to get some."

"You'd better get bofe kinds of pepper!" cried Johnny, as Mariannina ran into the house.

Ninny soon returned with spice box, scissors and tissue paper.

Ninny cut and Johnny mixed. Both children began to sneeze.

"Supposing it went off wiv a bang while I was mixing it," said prudent John Hancock. He turned his head and mixed at long range.

"First we'll twist up two, just to try," said Ninny.

But just as they had finished the two, a curly head appeared above the high fence. The head belonged to Angelina Thurston; the children knew very well that she was standing on the rain barrel.

"What you doin'?" she called.

"Oh, just making torpedoes," answered Johnny.

"Gi'—gi' me one?"

"I couldn't exactly give 'em away," responded Johnny.

"Pooh!" said Angelina. "I don't believe they're any good, anyhow!"

"Don't let's fire off any till she's gone," whispered Mariannina, "'cause if anything should happen that they wouldn't be good, she'd laugh at us. Let's make more."

Soon there was a fine large pile of beautifully formed torpedoes, looking for all the world like those you buy in the store.

"Now, then," said Mariannina, her cheeks red with excitement, "let's try 'em. You try first."

She held her breath, and had her fingers ready to stop her ears. Johnny straightened himself, took aim and furiously hurled one of the largest torpedoes against the stone. Alas and alas! It fell as noiselessly as a snowflake.

"It doesn't torpede," said Johnny plaintively.

He tried another, and another with the same result. Those plump and beautiful torpedoes, half filling the little cart, were—failures!

Mariannina wept. But the dinner bell rang and they went in.

Now all this time Uncle Joey, hidden behind the library blinds, had been chuckling quietly to himself. Still smiling, Uncle Joey opened the door of the library closet. On the top shelf were two packages of torpedoes, intended as a pleasant surprise. Uncle Joey slipped out into the yard and put them in place of the torpedoes the children had made.

After dinner the children went again into the shady yard. The little cart with its little load of torpedoes was still there. John Hancock picked up a torpedo, sighed, and let it fall. Bang! To his immense surprise that torpedo was a success! He tried another, and another. Oh, joy!

Then appeared Angelina on the rain barrel.

"See our torpedoes?" cried Johnny. "Smell 'em? Hear 'em?" And he threw three together.

"I say, will you give me a cent's worth?" asked Angelina.

She tossed down a cent, while Johnny, standing on a soap box, gave her five torpedoes.

Then Isabel and Amabel, the Bolton twins, sauntered into the yard. They had a cent between them; and seeing Angelina's purchase, they, too wished to buy. Johnny sold them a cent's worth.

"Made 'em ourselves," he said airily.

"How did you do it?" asked the twins, in awe.

"Oh, it's easy," answered Johnny. "Just take sand and salt and red pepper and black pepper, and twist 'em up in paper. I could do it wiv my eyes shut."

Johnny, intent upon proving to the twins the ease with which torpedoes could be made, mixed more "stuffing." Mariannina cut two covers; and there were now two brand-new, home-made torpedoes, one for Isabel and one for Amabel.

"Aim, fire, bang!" shouted Johnny. Isabel and Amabel obeyed. A painful surprise awaited them. The little white balls dropped as gently as kernals of popcorn.

Then Uncle Joey had to come out and set all things right in the eyes of everybody. When the truth was known, and Angelina and Isabel and Amabel found they had bought common store torpedoes, they objected

"I only bought 'em," said Angelina, "'cause I thought they were home-made."

"So did we," added the twins.

"All right, said Uncle Joey, kindly: "bring the torpedoes and you can have your money."

"But we've fired 'em all off."

"Well," replied Uncle Joey, "I suppose I shall have to pay you out of my own pocket." But as he had no change smaller than five-cent pieces, he was obliged to give five cents to Angelina and five to the twins. Then it occurred to him that it was rather cruel to leave out John Hancock and Mariannina; so he gave five cents to each of these.

"Now," said he, looking around at the little group, "I hope everybody is satisfied."—From the July St. Nicholas.

Characteristics Told in Eyes.

Blue eyes are said to be the weakest.

Upturned eyes are typical of devotion.

Wide-open eyes are indicative of rashness.

Side-glancing eyes are always to be distrusted.

Brown eyes are said by oculists to be the strongest.

Small eyes are commonly supposed to indicate cunning.

The downcast eye has in all ages been typical of modesty.

The proper distance between the eyes is the width of one eye.

People of melancholic temperament rarely have clear blue eyes.

Eyes in rapid and constant motion betoken anxiety, fear or care.

Eyes with long, sharp corners indicate great discernment and penetration.

The white of the eye showing beneath the iris is indicative of nobility of character.

Gray eyes turning green in anger or excitement are indicative of a choleric temperament.

When the upper lid covers half or more of the pupil the indication is of cool deliberation.

An eye the upper lid of which passes horizontally across the pupil indicates mental ability.

Unsteady eyes, rapidly jerking from side to side, are frequently indicative of an unsettled mind.

It is said that the prevailing colors of eyes among patients of lunatic asylums are brown or black.

Eyes of any color with weak brows and long, concave lashes are indicative of a weak constitution.

Eyes that are wide apart are said by physicians to indicate great intelligence and tenacious memory.

Eyes of which the whole of the iris is visible belong to erratic persons, often with a tendency toward insanity.

When the under arch of the upper eyelid is a perfect semicircle it is indicative of goodness, but also of timidity, sometimes approaching cowardice.

All men of genius are said to have eyes clear, slow moving and bright. This is the eye which indicates mental ability of some kind, it does not matter what.—Phrenological Journal.

"Growing Pains."

The title of this article is a good example of the harm that may lurk in a name. Many a man is now crippled or deformed who might have been spared the affliction had his parents heeded the warning of his childish sufferings, instead of dismissing them carelessly, as nothing but "growing pains."

There is no such thing as a pain due to the simple action of growth. Any pain, no matter what, from which a child or an adult suffers, is a sign of something wrong.

It is true that the wrong may be very slight, such as fatigue following a day of too much exercise, or the bruise following an unnoticed bump, or a slight cold, accompanied by a little fever and aching muscles. But pains of this kind in children, the negligible pains, are only occasional, and can usually, by putting two and two together, be referred to their true cause.

They are not growing pains, but are pains not unusual or unnatural for a growing child, who plays and romps in a normal, healthy manner.

The evil of the false security created by this name for a condition which does not exist is, however, manifested when the pains recur repeatedly, or are constant. Since growth is constant, the parent reasons with seeming logic that the pain should also be constant; and so the repeated complaints of the little sufferer are dismissed without a suspicion of the miserable future they foretell.

Then, when their persistency and evident intensity at last arouse a fear that growth is not alone responsible for them, the hip disease, or the inflamed knee or the disease of the spine has gone too far for the best of physicians to prevent deformity, even if he succeeds in saving the life of the sufferer.

The pain resulting from any of these diseases is apt to be felt only at night, when the child is in bed and asleep. It then comes, probably in consequence of an irregular contraction of some muscle, causing an unusual movement, as a sudden sharp stab, and the sufferer wakes with a scream.

As he wakes the muscles regain their tone and put the joint into position where the diseased part is relieved of the pressure and the pain ceases. The mother or the nurse breathes a sleepy wish that the little one didn't have so many growing pains, and the mischief goes on inside the unhappy victim of a popular error.—Youth's Companion.

Voyages Taken by Food.

Tables of exports and imports show queer movements of foodstuffs. Almost every country seems to export some foods and to import the same kind. And many countries import certain kinds of food for which they themselves are famous.

Russia is famous for the production of caviare. Yet a good part of the United States exports to Russia consist of caviare made along the Great Lakes and Delaware and Chesapeake bays.

England and Germany, both of which are known for their manufactures of cheese, import lots of it from the United States and sell it again as domestic cheese.

Lyons, in France, is distinguished for the production of a hard, red, highly spiced sausage. There is an American concern that has developed the production of this same kind of sausage to a point where it is as good as the French and cheaper. But the world wants the French sausage.

So the American product goes over the sea to France, and in Lyons it is packed in new wrappers and boxes. Then it is shipped away again to all the countries whose hotels are crying for saucisson de Lyon. And a part of these Franco-American sausages find their way back again to the United States, where they began life as plain sausages.

Hamburg is noted for its fine smoked, canned and jellied eels. Where do these eels come from? From the falls of the Nile.

A company of Baltic fishermen has settled in Egypt, catching Egyptian eels in the land of the Pharaohs, to be packed in cans with three towers of the Hamburg coat of arms stamped on them.

American wines are forever traveling to Europe, to come back again in a year or two with French, Italian and Spanish labels on them. But wines are not sent on sea voyages purely with the intent to deceive. It is believed by many vintners that a sea voyage improves a fine wine. Therefore, ships often carry wine as freight, without unloading it.

Then, again, custom duties and the provisions for keeping liquors in bond often make it profitable to ship wines and brandies to ports where they can be put in bond cheaply until they are wanted.

A person who studies the voyages of sherry, as shown in tables of exports and imports, is amazed to discover that of all unlikely places Newfoundland is one of the greatest points of imports for sherry. Of course Newfoundland is not wealthy enough to be a sherry drinking country. The wine is simply sent to it to go into bond.

One of the great national foods of Germany is the goose. Christmas and roast goose in Germany are as inseparable as Thanksgiving and turkey in America.

But the national bird of the Teuton isn't a Teutonic bird at all. Long, long ago, it appears, the Germans ate up all their own geese, and now they go around begging other countries for their geese. Russia has thrown herself into the breach, and her peasants are turning into goose farmers. In parts of Russia, near the German boundary, the traveler can see herds of geese now instead of herds of sheep.

How big these goose herds are can

be estimated by the faet that more than seven million of Russian geese were shipped into Berlin alone last year.

Uses of Borax.

Cuts in the hands, the ends of fingers, ete., are best eured by putting balsam of fir on the cuts. Cover with a little eotton to prevent the gum from stieking to things. It is soothing and healing.

Sprinkle plaees infested by ants with borax and you will soon be rid of them.

Blankets and furs put away well sprinkled with borax and done up airtight will never be troubled with moths.

A little borax put in the water before washing red or red-bordered tablecloths and napkins will prevent their fading.

Ringworms will yield to borax treatment. Apply a strong solution of borax three times a day; also dust on the fine dry powder very often.

Silver spoons and forks in daily use may be kept bright by leaving them in strong borax several hours. The water should be boiling when they are put in.

Put a teaspoonful of borax in your rinsing water. It will whiten the clothes and also remove the yellow east on garments that have been laid aside for two or three years.

One of the best things to cleansc the scalp thoroughly is to dissolve one-half teaspoonful of borax in a quart of water and apply it, rubbing it in well. Rinse thoroughly in clear water.

For washing fine, niee flannels, nothing will cause them to look so niee as borax in the water, a tablespoonful of borax to a pail of water being the right proportion. Always wash baby's little flannel skirts, shirts, ete., in this.

Always wash baby's mouth and gums every morning with water in whieh you have put a pineh of borax. It keeps the mouth fresh and sweet, and prevents that uneomfortable affliction, a sore mouth, with whieh so many poor babies are troubled when their mouths are not kept perfectly elean.

Borax water is excellent for sponging either silk or wool goods that are not soiled enough to need washing. In washing eashmere or wool goods put a little borax in the water. This will eleanse them mueh more easily and better, without injury to the colors. Do not rub them on a board, but use the hands, and throw on a line without wringing. Press them on the wrong side, and they will look almost like new.—Tribune.

Domestic Hints.

CONSOMME MILANAISE. — Clear eonsomme with short-eut macaroni or spaghetti or fidelini in it and red eorned or smoked tongue eut in shreds the size of Julienne vegetables. Cook the maearoni or spaghetti separately, wash off in cold water and plaee ready to drop a spoonful in each plate—precaution to avoid spoiling the elearness of the consomme. The shred tonguc makes no difference.

GRIDDLE CAKES.—One eup of flour, one heaping tablespoonful of Indian meal, one egg. Mix with milk to a thin batter, and after mixing add salt to taste, and two good teaspoonfuls of baking powder. Adding baking powder the last thing is against most precedent, but the eook who furnishes the recipe insists that the sueeess of the cakes depends on this detail being observed.

CARAMEL SAUCE.—The caramel sauee suitable for hot custard is made as follows: Boil slowly for five minutes a cup of water, a eup of sugar, a bay leaf, a small pieee of stiek cinnamon and a little of the yellow part of a lemon rind. In the meantime stir two tablespoonfuls of sugar with one of water, until the mixture beeomes a rich dark brown. Add half a cup of boiling water slowly, and stir until the earamel is melted. Then add the syrup, if it has boiled the full five minutes, removing the cinnamon and bay leaf. Pour the sauce into a sauce boat or faney bowl, and serve immediately. This is an excellent sauce with apple dumpling or any simple fruit pudding.

Hints to Housekeepers.

Thin slices of brown or gluten bread lightly buttered and then spread with eream cheese make delieious sandwiches to serve with lettuee and tomato salad.

If by any ehanee there is a little asparagus left over, use it in making a delieious omelet. Cut the stalks in inch pieees, put them in a bowl, and pour over them the eggs, well beaten. Season with salt and pepper, mix lightly, and pour into the omelet pan.

To keep moths out of furs and flannels, sprinkle spirits of turpentine over sheets of paper. Plaee a sheet between each garment. The turpentine will evaporate when exposed to the air. Thc odor may be more agreeable to some than the camphorated tar balls.

Very thin eurtains, or those whose day of service is very nearly over, will stand the ordeal of washing mueh better if care be taken to baste them upon sheets of eheeseeloth first. This relieves them of mueh of the strain of wringing and prevents them from being whipped to pieees by the wind in drying.

Dip any of the erisp soda erackers in milk, but do not permit them to beeome too sodden. Brush with beaten egg, sprinkle sugar and spread upon a platter on whieh there is room enough to lie singly. Put in the oven, let them brown slightly and sprinkle with mineed raisins and almonds. Lay two or three together and serve with whipped eream.

Thc bits of tongue and ham whieh do not look well upon the table should be saved and ehopped up together for meat pies. Spinaeh prepared with a butter sauee is mixed with the fragments just before they are put into the ehopper. A little tomato ketehup is an improvement. The thiekening should be either grated bread or craeker erumbs.

All white meats gain in flavor from a delieate onion admixture with the gravy. The onion is to be grated and put over the meat before it has just finished roasting and then blended by basting. In this way one avoids the burnt onion sliees, which sometimes result from other methods, and whieh have, in a way, eaused the addition of onion to be regarded with disfavor.

Asparagus is best when simply boiled and served with a good sauce. For variation try this method of serving: Boil the asparagus for fifteen minutes, take out of the water, and lay the stalks on a dish or in a casserole with grated Swiss or Parmesan eheese between them. Brown a sliee or two of onion in a tablespoonful of butter and pour over the asparagus. Sprinkle the top with grated cheese and breaderumbs and eook in the oven for fifteen minutes or until the asparagus is tender.

It requires a little skill or experienee to use soda with nieety, but it is worth while to aequire such skill; indeed, there is seareely an item in culinary proeesses whieh better repays one for intelligent experimenting. The bicarbonate of soda used to-day is a very different artiele from the carbonate of soda or saleratus with whieh careless eooks made spotted biseuits in our grandmother's time. Used with an aeid, as buttermilk, it is as scientifieally wholesome as any article employed as an adjunct in eookery. In many instances baking powder ean not give as good results as soda. It is scarcely possible to give an absolutely exact rule of measurements for soda, as brands differ somewhat in strength, and milk varies in acidity. But a general rule is one level teaspoonful of soda to one pint of sour milk. Be sure to pulverize the soda before measuring.

Didn't Want an Elephant.

"An elephant must be a pretty expensive animal."

"Yes; I wish I had money enough to buy one."

"What do you want with an elephant?"

"I don't; I merely expressed a wish for the money."—Philadelphia Press.

A FEW COURSES
IN
DOMESTIC ECONOMY---
"Arrow" Lard Compound,
"Monarch" Hams.

CAN BE OBTAINED FROM ALL FIRST-CLASS GROCERS.

WESTERN MEAT COMPANY
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No More Wash Day Backaches.

The OK gets your clothes clean without rubbing them to pieces. Scientific construction enables the O.K. to do your work quicker and better than any other machine on the market. Being the only Rotary Washer with revolving steel ball gearing, it operates so easy that

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while you're hanging up the clothes. There's no sickness that results from overheating and breathing of unhealthy steam. Thousands in use. We urge that you see the O. K. at your local dealer's store. If he does not have it send us his name and we will see that you are supplied with one.

H. F. BRAMMER MFG. CO.,
1449 Rockingham Road, Davenport, Iowa.

DIVIDEND NOTICE

The German Savings and Loan Society,
526 CALIFORNIA STREET.

For the half year ending June 30, 1904 a dividend has been declared at the rate of three and one-quarter (3¼) per cent per annum on all deposits, free of taxes, payable on and after Friday, July 1, 1904.

GEORGE TOURNY, Secretary.

DIVIDEND NOTICE

San Francisco Savings Union
532 California St., Cor. Webb.

For the half year ending with the 30th of June, 1904. a dividend has been declared at the rate per annum of three and one-half (3½) per cent on term deposits, and three (3) per cent on ordinary deposits, free of taxes, payable on and after Friday, July 1, 1904.

LOVELL WHITE, Cashier.

DIVIDEND NOTICE

California Safe Deposit and Trust Company
Cor. California and Montgomery Sts.

For the six months ending June 30, 1904, dividends have been declared on deposits in the savings department of this company, as follows: On term deposits at the rate of 3 6-10 per cent per annum, and on ordinary deposits at the rate of 3 per cent per annum, free of taxes, and payable on and after Friday, July 1, 1904.

J. DALZELL BROWN, Manager.

HIGH-CLASS TAILORING.

To clothe the human form in comely fitting apparel constitutes one of the most important problems in the affairs of life, and has, ever since history recorded the use of garments, been regarded no less intricate than important. Hence the necessity of going to

J. S. HAND, 111 Turk St., San Francisco,
who has solved the problem.

GINSENG Fortunes in this plant. Easily grown. Roots and seeds for sale. Room in your garden. Plant in Fall. Booklet and Magazine 4c.
Ozark Ginseng Co., Dept. V-6, Joplin, Mo.

GLENN RANCH,
Glenn County, - - California.
FOR SALE
IN SUBDIVISIONS.

This famous and well-known farm, the home of the late Dr. Glenn, "the wheat king," has been surveyed and subdivided. It is offered for sale in any sized government subdivision at remarkably low prices, and in no case, it is believed, exceeding what it is assessed for county and State taxation purposes.

This great ranch runs up and down the west bank of the Sacramento river for 15 miles. It is located in a region that has never lacked an ample rainfall, and no irrigation is required.

The river is navigable at all seasons of the year, and freight and trading boats make regular rips

The closest personal inspection of the land by proposed purchasers is invited. Parties desiring to look at the land should go to Willows, California, and inquire for P. O. Eibe.

For further particulars and for maps, showing the subdivisions and prices per acre, address personally or by letter,

F. C. LUSK,

Agent of N. D. Rideout, Administrator of the Estate of H. J. Glenn, at Chico, Butte County, California

Another Great Offer!
IN NORTHERN CITRUS BELT, NEAR MARYSVILLE.

160 Acres of land with vested water right, good improvements, well fenced. Suitable for fruit, hogs, cattle and poultry; 80 acres now in grain, 20 acres in alfalfa, well stocked, and all cattle, hogs, poultry and farming implements go with the place. Price only $40 per acre; favorable terms.

Party wanting a paying investment will buy this property. Owner about to return East Apply quickly to either P. L. WISDOM, Marysville, Cal., or to JOHN F. BYXBEE, Palo Alto, Cal.

CHEAP RATES California, Washington, Oregon, Colorado.

We secure reduced rates on shipments of household goods either to or from the above States. Write for rates. (Map of California free.)

TRANS-CONTINENTAL FREIGHT CO.,
G 28 Montgomery St., San Francisco.
G 355 Dearborn St., Chicago.
G 226 West 5th St., Los Angeles.

The Markets.

San Francisco Produce Report.

SAN FRANCISCO, June 29, 1904.

CHICAGO WHEAT FUTURES.

Wheat futures in Chicago were as follows for the week named, price being for No. 2 Red per bushel:

	July.	Sept.
Wednesday	84½@ 85¼	79⅝@80¼
Thursday	85½@ 84⅝	80¼@79¾
Friday	84⅝@ 85⅛	79⅜@80⅜
Saturday	85½@ 86¾	80⅝@81¾
Monday	86 @ 85⅜	81½@80¾
Tuesday	85⅝@ 84¾	81 @80½

CHICAGO CORN FUTURES.

Prices of futures on No. 2 corn per bushel in Chicago were as follows for the week:

	July.	Sept.
Wednesday	48⅛@48¾	48½@48⅞
Thursday	49⅜@48¾	49 @48½
Friday	48 @48¾	48¼@48¾
Saturday	47¾@48¾	48¼@48¾
Monday	47½@47⅞	48⅛@48½
Tuesday	47⅝@48¼	48¼@48⅝

SAN FRANCISCO WHEAT FUTURES.

The range of values in San Francisco for No. 1 White wheat per cental was as follows:

	Dec., 1904.	May, 1905.
Thursday	$1 27⅜@1 26½	$——@——
Friday	1 27⅛@1 26½	——@——
Saturday	1 27¾@1 28¼	——@——
Monday	1 27¼@1 27½	——@——
Tuesday	1 27¼@1 27½	——@——
Wednesday	1 27½@1 27¾	——@——

Wheat.

The spot market has continued dull since last review, with practically nothing doing on export account, and millers obtaining their supplies largely from the North. Ship owners have formed a combination for the purpose of advancing freight rates, but the chances of the combine proving a success are not first-class. Tramp steamers and sail tonnage from other parts will likely be attracted here, causing a still greater glut of idle shipping than has been experienced the past season. There will be no great surplus of California wheat from current crop, probably less than last season, with exports aggregating little over 50,000 tons and 100,000 tons on hand. The carry-over stock from previous season was 50,000 tons, leaving surplus from last crop 100,000 tons, including importations of wheat and its equivalent of over 95,000 tons, so the actual surplus was practically nothing. The speculative market has shown a little more firmness, in sympathy with improvement abroad, crop conditions being less promising in a large wheat area of this country east of the mountains, as also in portions of Europe.

California Milling	$1 35 @1 50
Cal. No. 1 shipping, alongside	1 27½@1 30
Oregon Club	1 27½@1 32½

PRICES OF FUTURES.

During past week the range on options was:
December, 1904, delivery, $1.26½@1.28¼.
May, 1905, delivery, $——@——.
Wednesday, at the forenoon session of Exchange, December, 1904, wheat sold at $1.27½@1.27¾; May, 1905, $——@——.

Ocean freights and prices for wheat, as compared with a year ago, are as follows:

	1902-03.	1903-04.
Liv. quotations	6s9d@6s9½d	6s7d@6s8d
Freight rates	17½@18¾s	17½@—s
Local market	$1 30 @1 32½	$1 27½@1 32½

Flour.

Stocks in this center are of fairly liberal proportions for this time of year, and demand is rather light, both for shipment and on local account. The majority of dealers and large consumers are purchasing only against immediate needs. In quotable values there are no changes.

Superfine, lower grades	$3 15 @3 25
Superfine, good to choice	3 25 @3 50
Country grades, extras	4 00 @4 30
Choice and extra choice	4 30 @4 60
Fancy brands, jobbing	4 50 @4 80
Oregon, Bakers' extra	3 50 @4 00
Washington, Bakers' extra	3 50 @4 15

Barley.

There is not much doing at present in this cereal in the San Francisco market. Shippers are endeavoring to keep prices down in this center, so as to be able to operate to advantage in the interior. That there will be much desirable barley secured at low figures is not probable. The crop is not only proving much lighter than last season, but the proportion of high grade barley is small. It is the exception where samples of new thus far exhibited are not of shrunken berry, in many instances so badly shriveled as to grade under No. 1 feed. Good to choice barley is apt to bring much better figures later in the season than are now quotable.

Feed, No. 1 to choice	$1 00 @1 02½
Feed, fair to good	95 @1 00
Brewing, No. 1 to choice	1 05 @1 12½
Chevalier, No. 1 to choice	1 07½@1 15
Chevalier, common to fair	1 00 @1 05

Oats.

Offerings of new oats by sample are of fairly liberal proportions, but arrivals are not heavy. New oats on market are principally Reds; some very choice are held at $1.20, but this figure is hardly warranted as a wholesale quotation. Quotable values for old oats are without material change, but in some cases holders are granting concessions rather than miss sales, especially on ordinary qualities, being desirous of effecting a clean-up.

White oats, fancy feed	$1 35 @1 37½
White, good to choice	1 32½@1 35
White, poor to fair	1 27½@1 30
Milling	1 32½@1 37½
Surprise, good to choice	1 37½@1 42½
Black oats	1 15 @1 22½
New, Red, fair to choice	1 10 @1 15

Corn.

Market is slightly easier for Eastern corn, straight and mixed, under increased offerings, quotable values showing a decline of 50c. per ton. California product is in very light stock. Supplies of Small Yellow are too limited to admit of other than a little jobbing trade.

Large White, good to choice	$1 42½@1 47½
Large Yellow	1 42½@1 47½
Small Yellow	1 55 @1 60
Egyptian White	1 27½@1 32½
Egyptian Brown	1 22½@1 30
Eastern, in bulk	1 35 @1 40

Rye.

Not much in stock here or offering to arrive, neither is the demand active. Values are ruling steady.

Good to choice	$1 30 @1 35

Buckwheat.

The wholesale market is bare. Stocks East are light and stiffly held.

Beans.

Pinks and Bayos have been receiving considerable attention the past week, and tendency of the market for these varieties has been to more firmness. Reds are in slim supply and in few hands. White beans of good to choice quality are being very steadily held. Market for Limas is firm at the quotations, with every prospect that the crop will be of comparatively small proportions.

Pea, fair to good, 100 lbs	$2 90 @3 15
Small White, good to choice	2 90 @3 15
Large White	2 30 @2 55
Pinks	3 40 @3 60
Bayos, good to choice	2 40 @2 60
Red Kidneys	4 50 @5 00
Reds	4 25 @4 75
Limas, good to choice	3 35 @3 40
Black-eye Beans	2 00 @2 15

Dried Peas.

There are small quantities of imported in the hand of jobbers. Market is almost bare of domestic product.

Green Peas, California	3 00 @——
Niles Peas	2 75 @——
Garbanzos, large	2 75 @3 00
Garbanzos, Small	2 25 @2 50

Hops.

No evidence of anything of consequence doing in the local market, either in spot stocks or in the way of contracting new hops to arrive. Some new have been recently reported contracted for at 18c, while there are growers holding out for better figures, but the market does not show any special firmness. The last issue of the Producers' Price Current of New York says: "The remarkable dullness which has characterized the hop trade ever since the middle of last January, shows no signs as yet of being broken. There is absolutely nothing doing between dealers, while brewers appear to have sufficient stock to warrant their not buying any hops. Reports from growing districts, both in this country and Europe, continue excellent, in fact better than they have been for many years at this time."

California, good to choice, 1903 crop	25 @27½

Wool.

Market continues firm. There is little doing here, however, buyers operating in the interior, as they have done throughout the season, giving wools no opportunity to accumulate here. Occasional small lots arrive from first hands and they meet as a rule with prompt sale at go d figures.

SPRING.

Northern, free	20 @22
Northern, defective	15 @18
Middle Counties, free	15 @18
Middle Counties, defective	12 @15
Southern, 12 months	10 @12
Southern, 7 months	9 @11
Spring Lamb, Northern	14 @16
Spring Lamb, Southern	10 @13
Oregon, Eastern, good to choice	18 @21
Nevada	14 @19

Hay and Straw.

New hay is coming forward more freely, but no brisk demand has been yet developed for same. The market for new is expected to show more activity within the next few weeks. Old hay continues in evidence in considerable quantity, and for other than most select the market is weak, holders being desirous of effecting a clean-up of stocks at an early day. Straw is in light supply and market firm.

Wheat, good to choice	$10 00 @ 14 50
Wheat and Oat	10 00 @ 13 00
Tame Oat, fair to choice	10 00 @ 12 00
Wild Oat	7 00 @ 10 00
Barley	8 00 @ 10 00
Alfalfa	7 00 @ 10 00
Compressed	11 00 @ 14 50
New Wheat, good to choice	10 50 @ 12 00
New Oat, good to choice	8 00 @ 11 00
New Volunteer	6 00 @ 8 00
Straw, ₱ bale	65 @ 80

Millstuffs.

Bran is offering more freely, both spot and to arrive, and market is inclining in favor of buyers. Middlings are not very plentiful, but there are enough for the demand at current asking figures. Rolled Barley and Milled Corn are selling at slightly lower prices than lately quoted.

Bran, ₱ ton	$21 00 @ 22 00
Middlings	25 00 @ 28 00
Shorts, Oregon	21 50 @ 22 50
Barley, Rolled	21 50 @ 22 50
Cornmeal	31 00 @ 31 50
Cracked Corn	31 50 @ 32 00

Seeds.

Market for the several kinds quoted herewith is not showing much activity. That trade should be light at this time is perfectly natural. Alfalfa is in small supply. There is virtually no Brown or Trieste Mustard offering. Market for Canary Seed is decidedly firm, prices having been recently marked up at points of production.

	Per ctl.
Alfalfa, Cal., good to choice	$14 00 @16 00
Flax	1 80 @ 2 00
Mustard, Yellow	2 75 @ 3 25
Mustard, Tricste	3 75 @ 4 25
	Per lb.
Canary	5¾@ 6
Rape	1¾@ 2¼
Hemp	3¼@—
Timothy	5 @ 5½

Honey.

Not much honey of any sort on the local market, and especially are stocks light of choice to select White. At the same time, there is no active inquiry at full current figures. To sell freely, especially for shipments abroad, inside quotations would be about the utmost that could be depended on.

Extracted, White Liquid	5¼@ 6
Extracted, Light Amber	5 @ 5¼
Extracted, Amber	3¾@ 4¼
Extracted, Dark Amber	3¼@ 3¾
White Comb, 1-frames	12½@13
Amber Comb	9 @11

Beeswax.

Demand has been lately greater than the supply. Market is firm at the figures quoted.

Good to choice, light ₱ lb	28 @30
Dark	26 @27½

Live Stock and Meats.

Beef is in fair supply and moderate request, prices slightly lower than last quoted. Not much Veal arriving and choice is meeting with a tolerably firm market. The last quoted advance on Mutton and Lamb is being well maintained, there being no excess of offerings in prime to choice condition. Hog market is showing more steadiness, under continued light receipts and fair demand.

Allowing for the shrinkage of about 50%, which is exacted in buying cattle on the hoof, live cattle command as much or more per pound than dressed beef, the shrinkage exacted being the slaughterers' profit.

The following quotations for beef and mutton are based on prices realized by slaughterers from wholesale dealers:

Beef, 1st quality, dressed, net ₱ lb	6½@—
Beef, 2nd quality	5½@—
Beef, 3rd quality	4 @ 5
Mutton—ewes, 7@—e; wethers	8 @—
Hogs, hard grain, 140 to 200 lbs	4¾@ 4⅞
Hogs, large, hard, over 200 pounds	4½@ 4½
Hogs, small, fat	4¾@—
Veal, large, ₱ lb	7 @ 8
Veal, small, ₱ lb	8 @ 9
Lamb, spring, ₱ lb	9 @—

Hides, Skins and Tallow.

Hides and Pelts are selling at quotably unchanged values, desirable lots receiving prompt attention. Tallow is not in large supply, and good to choice readily commands full current figures.

Nothing but select hides, clean and trimmed will bring full figures. Culls of all kinds, either from grubs, cuts, hair slips, side brands or murrain, are not always readily placed at the lower figures.

	Sound.	Culls.
Heavy Steers, over 56 lbs	— @ 9½	— @ 8
Medium Steers, 48 to 56 lbs	— @ 8½	— @ 7½
Light Steers, under 48 lbs	— @ 8	— @ 7
Heavy Cow Hides, over 50 lbs	— @ 8	— @ 7
Light Cow Hides, under 50 lbs	— @ 8	— @ 7
Stags	— @ 6	— @ 5
Wet Salted Kip	— @ 9	— @ 8
Wet Salted Veal	— @10	— @ 9
Wet Salted Calf	— @11	— @10
Dry Hides	— @16	— @15
Dry Kip and Veal, 11 to 16 lbs	— @13	— @12
Dry Calf, under 4 lbs	— @18	— @16
Pelts, long wool, ₱ skin	1 00@1 50	
Pelts, medium, ₱ skin	70@ 90	
Pelts, short wool, ₱ skin	40@ 50	
Pelts, shearling, ₱ skin	15@ 30	
Horse Hides, salted, large prime, each	2 75@——	
Horse Hides, salted, medium	2 25@2 50	
Horse Hides, salted, small	1 25@——	
Horse Hides, dry, large	1 75@——	
Horse Hides, dry, medium	1 25@——	
Horse Hides, dry, small	1 00@——	
Tallow, good quality	4 @4½	
Tallow, poorer grades	2½@3½	

Bags and Bagging.

Some figures are being floated, as to stocks of Grain Bags and probable requirements, attempting to show a shortage in the supply. The fact remains, however, that the market is weak. The figuring is also weak in this regard, that the needs of Oregon and Washington are prominently brought into the calculation, whereas, much of this Northern wheat is held in elevators, large quantities remaining there in bulk the greater part of the season.

Bean Bags	$ 4¾@5
Fruit Sacks, cotton	6¾@6¾
Fruit Sacks, jute, as to quality	5¾@7
Grain Bags, Calcutta, 22x36, spot	5½@5⅝
Grain Bags, San Quentin, ₱ 100	5 40 @——
Wool Sacks, 4-lb	32 @——
Wool Sacks, 3½-lb	30 @——

Poultry.

Eastern poultry was in heavy receipt for this time of year, four carloads being landed on the market since last review. The Eastern stock was principally Hens, averaging considerably larger than the general run of domestic, and were given the preference by most buyers. Choice young chickens, full grown or nearly so, were not plentiful and brought good prices, especially was this the case with large Young Roosters showing no spurs. There was not much positive inquiry for either Turkeys, Ducks or Geese. Values for Pigeons were maintained about as last quoted, with demand only moderate.

Turkeys, young gobblers, ₱ lb	$ 14 @ 15
Turkeys, young hens ₱ lb	14 @ 15
Hens, California, ₱ dozen	4 00 @ 4 50
Hens, large	5 00 @ 5 50
Roosters, old	4 00 @ 4 50
Roosters, young (full-grown)	7 50 @ 9 00
Fryers	5 00 @ 6 00
Broilers, large	3 00 @ 3 50
Broilers, small to medium	2 00 @ 2 50
Ducks, old, ₱ dozen	4 00 @ 4 50
Ducks, young, ₱ dozen	4 50 @ 5 00
Geese, ₱ pair	1 25 @ 1 50
Goslings, ₱ pair	1 25 @ 1 75
Pigeons, old, ₱ dozen	1 50 @——
Pigeons, young	1 50 @ 1 75

Butter.

No large quantities of butter are now going outward or are being consumed locally, but there is considerable going into cold storage, and on desirable grades values are ruling slightly firmer, largely the result of competition between receivers to control certain creameries.

Creamery, extras, ₱ lb	20 @21
Creamery, firsts	19 @20
Creamery, seconds	18½@19
Dairy, select	19 @20
Dairy, firsts	18½@19
Dairy, seconds	17 @17½
Cold storage	— @—
Mixed Store	13½@14

Cheese.

Receipts of California flats are showing decrease, but there are fairly liberal stocks of Oregon product, and prices are without appreciable change. Young Americas are offered sparingly, but not many are required to satisfy the demand at prices prevailing.

California, fancy flat, new	8½@ 9
California, good to choice old	8 @ 8½
California, fair to good	7½@ 8
California, "Young Americas"	9½@10½
Eastern	10 @13

Eggs.

Stocks of strictly choice to select fresh are not of large proportions, and such are bringing tolerably firm figures in a limited way to special trade. For the general run of offerings, however, the market does not display any special firmness. Eastern eggs are arriving rather freely, and are selling down to 18c for firsts and 15c for seconds.

California, select, large, white and fresh	22 @23
California, select, irregular color & size	20 @21
California, good to choice store	18 @19
Eastern firsts	18 @20
Eastern seconds	16 @18

Vegetables.

While most varieties in season were in fairly liberal supply, the proportion of offerings which could be termed choice to select was not heavy, and for desirable qualities comparatively good figures were as a rule realized. The Asparagus season is nearly ended. Choice Peas and fine String Beans sold to advantge. Green Corn was in increased supply and lower. Tomatoes brought better average prices than previous week under decreased offerings. For best qualities of Onions market ruled steady.

Asparagus, ₱ lb	4 @ 6½
Beans, String, ₱ lb	2 @ 4
Beans, Wax, ₱ lb	2 @ 4
Cabbage, choice garden, ₱ 100 lbs	1 00 @ 1 25
Corn, Green, ₱ crate	1 75 @ 2 25
Cucumbers, ₱ large box	1 00 @ 1 50
Egg Plant, ₱ lb	8 @ 12½
Garlic, new, ₱ lb	3 @ 5
Onions, Cal. Red, ₱ sack	80 @ 1 00
Onions, Yellow Danver, ₱ ctl	1 50 @ 1 75
Peas, sweet garden, ₱ lb	3 @ 4
Peppers, Green Chile, ₱ lb	8 @ 12½
Rhubarb, ₱ box	40 @ 75
Summer Squash, ₱ small box	40 @ 65
Summer Squash, Bay, ₱ large box	1 00 @ 1 25
Tomatoes, ₱ crate	1 75 @ 2 25

NOTE.—Large boxes are what are known to the trade as "pay boxes," which have to be returned or paid for. They are open top, with hand holes in the ends, and weigh when filled from 50@60 lbs gross. Small boxes are free boxes, about the same as the regular fruit box, weighing when full from 20 to 30 lbs. gross.

Potatoes.

New potatoes are not arriving very freely, and with demand fairly active, good prices are being in the main realized. Some fancy new White, under active competition between local buyers, brought as high as $2.35. Old potatoes were on market in quotable quantity, mostly Oregon stock, but demand for them was decidedly slow.

Sacramento River Burbanks	75 @ 1 00
Oregon Burbanks	1 00 @ 1 25
New Potatoes, white, ₱ cental	1 65 @ 2 25
New Early Rose, ₱ cental	1 65 @ 1 85
New Garnet Chile	1 65 @ 1 75

Fresh Fruits.

Apricots were in fairly liberal receipt, and market in the main inclined in favor of buying interest. Sales in bulk to the

canning trade were mostly within range of $20@35 per ton for good to choice. Early apples of desirable quality were readily placed. Peaches were not in heavy stock, but there were more than enough to satisfy the demand at full prices. Plums were only in moderate supply, but made a better display, both as to quantity and quality, than previous week; for choice large, desirable for shipment, the market was rather favorable to sellers. Pears of the early varieties were in more than ample supply for the immediate demand at full prevailing values. Figs were in free receipt and market was lower. Cherries were in very light supply. Grapes were offered sparingly and the demand for them not very active. Cantaloupes and Watermelons ruled lower than last quoted. Currants were in light receipt and choice brought good prices. Raspberries of high grade met with a firm market. Other berries in season went at much the same range of price as last quoted.

Apples, Green, ₱ 50-box	50	@	90
Apples, good to choice, 50-lb. bx	1 00	@	1 25
Apricots, ₱ crate	40	@	85
Apricots, ₱ ton	20 00	@	40 00
Blackberries, ₱ chest	3 00	@	5 00
Cantaloupes, & crate	1 50	@	2 50
Cherries, Black, good to choice, bx	75	@	90
Cherries, Black, in bulk, ₱ lb	7	@	8
Cherries, Royal Anne, ₱ box	75	@	90
Cherries, Royal Anne, ₱ lb	7	@	8
Currants, ₱ chest	4 00	@	6 00
Figs, 1-layer box, 25@40; 2-layer	1 00	@	1 25
Loganberries, ₱ chest	2 00	@	3 50
Peaches, ₱ box	40	@	75
Pears, Madeline, ₱ small box	25	@	50
Pears, Lawson, small box	40	@	75
Plums, Clyman, ₱ box	40	@	75
Plums, Cherry, ₱ box	30	@	50
Plums, Simoni, ₱ box	75	@	90
Prunes, Tragedy, ₱ box	75	@	1 00
Raspberries, ₱ chest	4 00	@	7 00
Strawberries, Longworth, ₱ chest	3 00	@	5 00
Strawberries, large, ₱ chest	2 50	@	4 00
Watermelons, ₱ lb	1½	@	—

Dried Fruits.

Stocks of old, other than Prunes, have been worked down to small proportions, as regards tree fruits, admitting of only light jobbing transactions. Values for most kinds remain nominally as previously noted, there being little upon which to basis wholesale quotations. Apples are being more firmly held, under light offerings, few evaporated being now obtainable under 5½c., and for strictly fancy 6½c. is an inside figure. Last year's Prunes are quoted down to the 2c. basis for the four sizes. Speculative operators are offering new on the 9 point basis ⅛c. under above figure, but to purchase freely of either new or old, higher prices would have to be paid. New Apricots are arriving in small quantity and are offering ungraded at 8@8½c. here. Standard Royals are quotable at 7½@7¾c., choice being held at 8@8½c., and fancy being quotable at 9c. Buyers are showing less eagerness on new crop Peaches, but in quotablo rates there have been no special declines, the range for good to fancy remaining at 5¾@ 7c. in the sweat. On future Pears dealers talk on basis of 7c. for choice in 25-lb. boxes. No prices on new crop Figs have yet boen named, but indications are that values for this fruit will be at a slightly lower range than previous season. Clearances of dried fruit through the custom house the past week have been only of small quantities, not worthy of detailcd mention.

EVAPORATED OR BLEACHED.

Apples, 50-lb boxes, rings, pressed, good to choice	5¼@ 5¾
Apples, extra choice to fancy, 50-lb boxes	6 @ 6½
Apricots, Moorpark	8½@11
Apricots, Royal, good to choice, ₱ lb	8 @ 8½
Apricots, Royal, fancy	9 @ 9½
Figs, 10-lb box, 1-lb cartons	55 @75
Peaches, unpeeled, choice	7 @ 7½
Peaches, unpeeled, fancy	8 @ 8½
Plums, Black, pitted	4½@ 5
Plums, Yellow, pitted	5 @ 7
Prunes, Silver, good to fancy	2½@ 5
Prunes, in bags, 4 sizes, 2@2¼c; 40-50s, 3¾@4c; 50-60s, 3⅜@3½c; 60-70s, 2⅞@3c; 70-80s, 2⅜@2½c; 80-90s, 1⅞@2c; 90-100s, 1⅜@1½c; small, ¾@1c.	

COMMON SUN-DRIED.

Apples, sliced	3½@—
Apples, quartered	3½@—
Figs, White, in bulk	2½@ 3½
Figs, Black	3 @ 4

Raisins.

Market is exceedingly quiet, as is to be expected in the mid-Summer period. Layer Raisins are practically out of stock. Official card rates for Loose Raisins are without change.

Following are current quotations for raisins as announced by the Growers' Association of Fresno for crop of 1903, f. o. b. at Fresno, subject to change without notice:

Standard Grades—	50-lb. cases, Per lb.
2-Crown Loose Muscatels	4 c
3-Crown Loose Muscatels	4¼c
4-Crown Loose Muscatels	—c
Seedless Loose Muscatels	3¼c
Seedless Floated	3½c
2-Crown Malaga Loose	3¾c
3-Crown Malaga Loose	4 c
Seedless Sultanas, Unbleached	3½c
Seedless Thompson's, Unbleached	—c

SEEDED.

Fancy 16-oz. Cartons, ₱ lb	5½c
Fancy 12-oz. Cartons, ₱ pkg	4½c
Fancy Bulk Cartons, ₱ lb	5¼c
Choice, 16-oz. Cartons, ₱ lb	5¼c
Choice, 12-oz. Cartons, ₱ pkg.	4¾c
Choice, Bulk Cartons, ₱ lb	5 c

Citrus Fruits.

Not much doing in Oranges, offerings and demand being both of a light order. Auction sales have stopped for the season. Late Valencias are in fair request, mainly for shipment. In Lemons there is a moderate business doing at same range of values lately current, with supplies ample for current needs. Limes were in increased stock, previous quotations remaining in force, with market easy in tone.

Oranges, Valencias, ₱ box	1 50	@3 00
Lemons, California, select, ₱ box	2 50	@—
Lemons, California, good to choice	1 75	@2 25
Lemons, California, fair to good	1 25	@1 75
Grape Fruit, ₱ box	1 25	@2 50
Limes, Mexican, ₱ box	4 00	@4 50

Nuts.

Market shows much the same general condition as last noted. Spot stocks of Almonds are not heavy and are being very steadily held, owing to lightness of coming crop. Choice Walnuts are too scarce to admit of other than small transactions. Peanuts now in stock are principally Japanese product, prices for which are without quotable change.

California Almonds, shelled	16 @19
California Almonds, paper shell	11 @12½
California Almonds, soft shell	9 @11
California Almonds, hard shell	5 @ 6
California Walnuts, soft shell	14 @15
California Walnuts, standard	9 @11
Peanuts, fair to prime	4½@ 5½

Wine.

The local market gives no evidence of any noteworthy activity in the way of transfers from just hands. Dry wines of last vintage are quoted at 15@17c per gallon, delivered in San Francisco, but free sales could not be effected at this date at extreme quotations. Sweet wines of 1903 vintage are held at 30c per gallon at points of production, with stocks liberal and movemont light. On wine grapes $14@15 per ton is being bid for northern for a term of years. In San Joaquin efforts are being made by wine dealers to contract for Zinfandels at a minimum price of $12 per ton. Receipts of wine at San Francisco last week were 284,700 gallons, and for preceding week were 335,923 gallons. The steamer San Jose, sailing June 27, carried 74,437 gallons and 86 cases, including 61,402 gallons for New York.

Produce Receipts.

Receipts and oxports of leading cereals and other California products for the past week and for the season to date, as compared with tho corresponding time the previous year, are as follows:

FOR THE WEEK.		Since July 1, 1903.	Same time last year.
Flour, ¼ sks	79 490	5,458,949	5,955,284
Wheat, ctls	106,568	2,483,637	6,067,607
Barley, ctls	22,850	5,474,504	4,931,843
Oats, ctls	8,504	865,837	766,014
Corn, ctls	7,479	182,293	147,270
Rye, ctls	520	60,794	185,650
Beans, sks	2,598	728,624	704,180
Potatoes, sks	24,156	1,339,613	1,305,908
Onions, sks	5,252	167,248	215,325
Hay, tons	3,409	173,719	163,826
Wool, bales	620	72,038	69,325
Hops, bales	.....	31,407	15,321

EXPORTS BY SEA.

FOR THE WEEK.		Since July 1, 1903.	Same time last year.
Flour, ¼ sk	102,206	3,455,328	4,020,787
Wheat, ctls	47,656	1,064,527	5,267,534
Barley, ctls	10,787	4,213,911	3,534,948
Oats, ctls	267	25 066	40.112
Corn, ctls	1,225	20,011	50,565
Beans, sks	461	41,480	43.526
Hay, bales	1,942	231,287	217,752
Wool, lbs	212,124	3,047,075	1,168,059
Hops, lbs	90	593,907	435,187
Honey, cases	6	5,554	4,165
Potatoes, pkgs	800	113,437	103,337

The Horned Toad.

Mr. C. E. Jenny writes to the Fresno Republican as follows: At this time of the year when even the sun-loving ground squirrels and the desert-bred horned larks seek the shadow of available fence posts or telegraph poles, the horned toad is in its element. This diminutive descendant of the Mesozoic saurians is in truth a miniature copy of some of those armored monsters. He is no toad at all, for he has a tail, but one of the lizards, related to the iguanas. Though he has not the usual roundness of body of the lizards, his quick, darting movements show his likeness. He runs swiftly for a short distance, but not far in one direction, so may be easily captured. His body is flat and orbicular; the back drily scaled; there is a keel-shaped horn over the eyes and the whole head has the appearance of wearing a helmet. He wears an Elizabethan ruff or spiked collar and seems prepared for defense against anything of his size. Phrynosoma Douglassii, I believe, our common horned toad is called, though I am not certain as to the species, as I have found descriptions very meager. He is, like Autolycus, "a snapper-up of unconsidered trifles"—flies and ants being his specialties. Though of so unprepossessing appearance, he is quite venomless and is often made a pet of. Specimens are easily sent in boxes through the mail to distant points alive. He seldom or never is seen to touch water. The young, seven or eight in a litter, are born alive. They are very commonly seen in the dry sandy tracts adjoining Fresno, and more often, stuffed and mounted on orange-wood slabs, in the store windows. As such, they have become familiar all over the United States as curios from California. Parties in southern California carry on quite a trade in supplying these, together with tarantulas and centipedes. In the days when it was a fad for young ladies to wear live chameleons as jewelry, frequently small horned toads were seen attached by tiny chains to a brooch or pin and darting about the wearer's person. I have always thought that these young ladies were out of place in society's drawing room and should have been destined for the snake-charming cages of a circus.

Chicago, Ill., Sept. 28, 1901.
Dr. S. A. Tuttle, Boston, Mass.
Dear Sir:—I can not speak in too high terms of your Elixir. It is the best liniment I ever saw. I probably do the largest business in the horseshoeing line in the city and use a great many bottles of it. In cases such as nails in the feet and all different diseases of the feet, colic, spavin, etc., I find it has no equal. It will do all you say it will. I have given a great deal of it to my customers, and in every instance they had me get them a dozen bottles. Will be only too pleased to have you use my name wherever you have occasion to do so, as I can not say too much for your Elixir.
Yours truly, JOHN KERR.
69 West Lake St.



PATENTS

Our U. S. and Foreign Patent Agency presents many and important advantages as a Home Agency over all others, by reason of long establishment, great experience, our Washington branch which tends *exclusively* to our business before the Patent Office, intimate acquaintance with the subjects of inventions in our own community, and our most extensive reference library, containing official American reports since 1790, with full copies of U. S. Patents since 1872. All worthy inventions patented through DEWEY, STRONG & CO.'s Patent Agency will have the benefit of a description in the *Mining and Scientific Press.* We transact every branch of patent business, and obtain patents in all countries which grant protection to inventors. The large majority of U. S. and foreign patents issued to inventors on the Pacific Coast have been obtained through our agency. We are conservative and counsel preliminary examinations in cases of doubtful novelty. Guide to inventors sent on request.

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Bright's Disease and Diabetes News.

Law Offices of Henley & Costello.
San Francisco, Jan. 20, 1904.
To the legal profession of California:

I was a witness to the following: About two years ago Prof. Yost of Palo Alto who was in an extreme condition due to advanced Bright's Disease, came to my office. He was attended by his physician who was himself a victim of Diabetes. The object of the visit was to meet a prominent business man who had for months been investigating an alleged cure for Bright's Disease and Diabetes, and hear his verdict. He declared that the claims were fully proven and that the cure had been discovered. Both Prof. Yost and his physician at once adopted the treatment. Within six months both were so well along toward recovery that they considered themselves beyond danger and at this date neither Bright's Disease nor Diabetes hold any terrors for them, and the physician is successfully using the treatment in his practice.

Learning that my old law partner, Judge R. R. Bigelow, for many years Chief Justice of the State of Nevada, had Bright's Disease and that though he had had four or five of our best physicians, yet that he had had to give up practice and was in a serious condition, I lost no time in telling him of the above. It resulted in his complete recovery and he is again back to active practice. As to the curability of chronic Bright's Disease and Diabetes I have no more doubt about it than that I am living.

Sincerely yours,
BARCLAY HENLEY.

The above refers to the newly discovered Fulton Compounds, the first cures the world has ever seen for Bright's Disease and Diabetes. Send for pamphlet to Jno. J. Fulton Co., 407 Washington street, San Francisco.

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THE APIARY.

California Honey Affairs.

Prof. A. J. Cook of Los Angeles county furnishes the American Bee Journal a budget of observations and reflections about California affairs in the apiary line.

Foul Brood and Pickle Brood.—I am getting many samples of dead brood, with inquiries what it is and as to the cure. I believe that these are what are generally known as "pickled brood." They are very different from foul brood, and its variety, black brood or foul brood, in another form. In these latter the larva melts away into a mass of decay, a brown, coffee-colored, salvy, unctuous mass, that one can pull out of the cell with a toothpick or pin, and which usually flies back when it lets go its hold. In some cases it does not have the elasticity, and so does not spring back.

This other is very different. The bees keep their form, but as they are dead the bacteria take hold of them and they, as a result, decompose, or decay, as we say, and we smell the sour odor which gives the name. We never get the rank odor of foul brood.

Is not pickled brood the generic name for brood that may die from any cause, and then decay as a consequence of death? If this is correct, the bacteria kill the bees in the case of the malignant foul brood, and in the other case—that of pickled brood—they simply remove the carcass of the bee, dead from some other cause. The one bacterium is our enemy, as it kills our bees; the other is a friend, as it removes the dead, and so cleans the hive. We have the same difference in the bacillus of diphtheria, and the more common microbe of decay or putrefaction. The one attacks and carries off our loved ones; the other will decompose our bodies and dissolve them, if we may so speak, or, perhaps better, resolve them into the several elements of which they are made up.

Influence of a Good Meal.—The first year after I came to California was a very dry year, with very little rainfall. There was much of this dead and decaying brood. I noted that many of the bees in colonies where it was most marked were very short of stores—indeed, nearly all in a starving condition. I commenced feeding them, and the disease at once disappeared. I seemed to cure it in every case where I fed the bees, and in colonies where there was plenty of stores the disease seems to be absent. I believe in this case it was simply a case of starvation, and the bees had not the food to enable them to feed the larvæ. We are now having in many sections of southern California a condition similar to 1894—my first year here—and many bees are starving, and others are on the very verge of starvation. If the bee keeper, in such case, will feed his bees he will not only save them, but he will, I believe, in many cases remove this decaying brood.

I do not wish to say that starvation is the only cause of the brood dying. In case it dies, then the removal will be the same in every case, and the condition and appearance will be nearly the same. Is it not possible that bees may, with limited stores, become discouraged and not properly feed the brood, and so have the same effect? I have seen cases that looked as if this might be true. If the above is true, then pickled brood is the result of brood dead from any cause, except foul brood, and the remedy is to prevent conditions of lack of stores, cold, or aught else that will cause the death of the brood.

Poisonous Honey.—It will be remembered by the readers of the bee papers that I have often expressed that the honey from the kalmia, or other reputed toxic flowers, was really poisonous. The fact that the reported cases of poisoning only occur occasionally, and that the flowers are always on hand, the fact that honey is often a poison to many people, whatever the source, and the fact that I have freely eaten of such honey with no evil results, have made me skeptical as to this poisonous nectar.

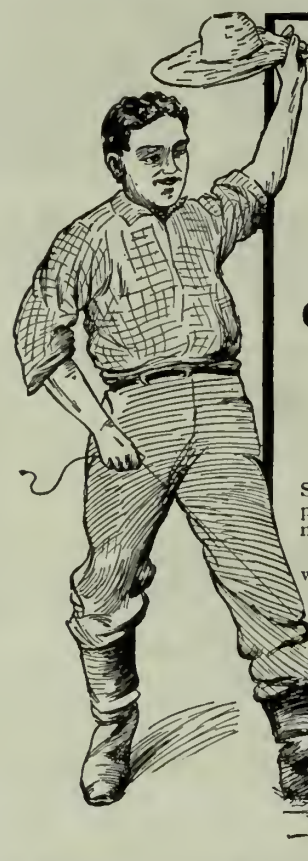
In California there is a similar belief regarding the nectar of some species of eucalyptus. It is reputed to kill bees. Here, again, I have strong doubts. It is only occasionally that the mortality is noticed. I should look very carefully and see if I could not find other causes of the bees dying. We know that when bees are gathering very fast in the height of the season very many die. They age very fast, and the mortality is very great. We often notice bees returning to the hives, especially near the close of the day, so tired and worn that they fall near the entrance of the hive and never gain it. I have wondered in case of these eucalyptus trees if the bees might not die of overwork and old age in the same way.

We know that the temperature changes very rapidly here in California with the going down of the sun. Is it not more than possible that the cool atmosphere chills the bees that are tempted to remain at work over-hours, and so the bees are chilled and fall from the flowers, never to rise? Some of the eucalypts seem to attract the bees in great numbers, and to furnish much and excellent honey. In such case it is easy to believe that the bees are lured on, late in the day, and age, weariness and the chill of night, all together, were too much, and the bees simply died, possibly before their time. I really believe that such trees are to be praised, rather than condemned.

I ask any who have opportunity to observe in this matter. I can not do so, as our eucalypts do not act that way. I believe that these trees are valuable for the bee keeper, and I am inclined to the opinion that all are valuable. Mrs. Minnie E. Sherman of Fresno county tells me she has observed just this thing in her eucalypts.

Fatal Stinging by Bees.—We have record, during the past week, of two fatal accidents due from bee stings—the one a horse, the other a child. The horse belonged to Mr. Mendleson of Ventura county, and was hitched near the bees. The child is supposed to have disturbed and angered the bees with a stick.

This shows that we can not be too careful in all cases. Tying horses or cattle near the line of flight of bees, especially when the bees are idle, is always attended with risk. In case of severe stinging, wrapping cloths wet in hot soda water is the best remedy for a person, and covering a horse or cow with blankets wet with hot water, as hot as can be borne, or, in case it cannot be done at once, until the hot water is ready, in cold water is the best remedy. I have known that to save valuable horses that were seriously stung. Either hot or cold water will check the congestion.



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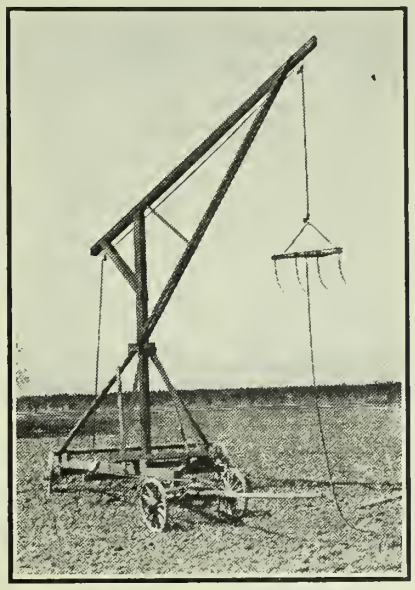
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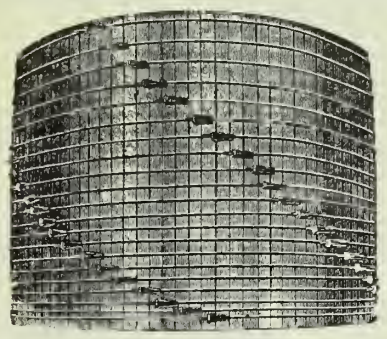
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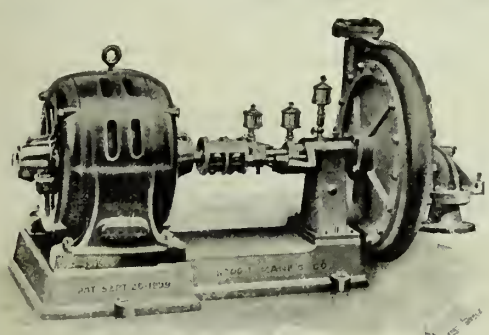
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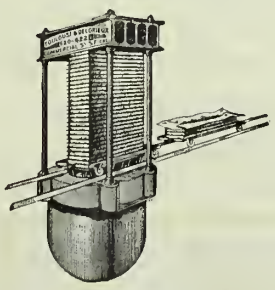
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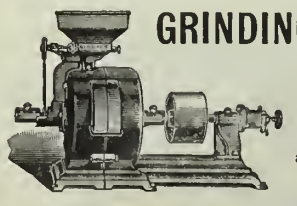
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THE IRRIGATOR.

Methods of Preparing Land for Irrigation.

The U. S. Department of Agriculture will soon issue Bulletin No. 145, of the Office of Experiment Stations, describing methods of preparing land for irrigation and applying water to crops in different sections of the arid region of the United States. In this bulletin the methods of getting rid of sagebrush, smoothing the ground, building laterals, and distributing water over fields as developed by the experience of farmers in irrigated districts are brought together and described. The tools and implements used are illustrated and the cost of the work, based upon actual examples in different States, is given. The purpose is to afford beginners a reliable guide both as to the cost of bringing wild land under cultivation and methods best suited to different soils, climates and crops. The facts included in this bulletin have been gathered by the irrigation investigations of this Office, acting in co-operation with the State experiment stations and State engineers' offices.

The bulletin brings out the fact, not well understood, that the cost of preparing land for irrigation is in many instances greater than the cost of building canals and reservoirs. Detailed figures of the cost of checking land show that it varies in certain districts in California from $9.96 to $18.08 per acre. This is more than twiee the cost of the canal systems iu the San Joaquin valley, California, which is given in the report of the Census Bureau for 1902 as $4.99 per irrigated acre. Where the preparing of land is contracted for the cost of checking varies from $7.50 to $20 per acre. The pricc of preparing land for flooding is much less, but is $5 per acre iu Wyoming. The need of a better understanding of this particular branch of irrigation practice is becoming more and more important. Reservoirs and canals are but means to accomplish a purpose. That purpose is to inerease the products of the soil. The value of the ditch or reservoir depends upon the acreage of land which it will serve and the increase in the value of the products which the use of water will bring about. The time is coming when the most important problems connected with irrigation will be the best means of applying water, and not, as at present, those of canal and reservoir building.

About thirty different methods of applying water are now in use. This does not mean that there are thirty distinct systems, but includes the different ways of preparing land by checking, compartments, deep and shallow furrows, flooding, sprinkling, and sub-irrigation. This bulletin gives some of the results of a series of tests of different methods of applying water and the difference in loss of water by evaporation in deep and shallow furrows and in flooding. About one and one-half times as much water was needed to irrigate an acre of land by flooding as was required in furrows 12 inches deep. About one and one-third times as much water was needed to irrigate in furrows 3 inches deep as in furrows 1 foot deep. A saving of one-third the water by the adoption of a better system would mean not only increased profits to farmers, but a large increase in the acreage which could be irrigated from canals or reservoirs.

Irrigating Indian Lands.

The recent action of Congress in passing Senator Bard's amendment to the Indian bill has put another definite task upon the reclamation service. The Secretary of the Interior is now authorized to subdivide and utilize the Indian lauds along the Colorado river. The reclamation of the country adjacent to what has sometimes been called "the great American Nile" is thus assured.

The plans to irrigate these lands have long been regarded with special favor in southern California. The chambers of commerce in Los Angeles and other cities were, indeed, uothing loath to ask Congress to take prompt action in the matter.

The passage of Senator Bard's amendment is especially interesting, as it is now possible for the Secretary of the Interior to carry out an agreement made with the Indians years ago, to the effect that their lands might be subdivided and irrigated by a private corporation. Suitable laws were passed, but the company failed to build the works, and the Indians have been waiting for other relief. From time immemorial they had been accustomed to cultivate the lands along the river in spots wet by the natural overflow. These areas have now passed into the hands of the whites. All that is left the Indians is desert land that, without water, is valueless. With water, however, it can be made to produce several crops a year. Under the amendment to the Indian bill relief has finally come to the impoverished Indians.

The Secretary of the Interior is now free to build the necessary canals under the terms of the reclamation law, and to allot to each Indian five acres of land with water. He need not wait on any private corporation. As the Indian families average from five to six persons, this would gve them ample lands for their support, judging from the experience of the Mormons in Utah, where the average irrigated farm is less than thirty acres. The lands not utilized by the Indians are to be opened to white settlers who will pay for them. Under the terms of the reclamation law the sale of lands will serve to defray the expenses of the irrigation works, payments being made in ten annual installments. Southern California and adjacent portions of Arizona should be benefited by the influx of settlers which is sure to follow the irrigation of the lands.

New Patents.

Dewey, Strong & Co.'s Scientific Press Patent Agency, 330 Market St., S. F., has official reports of the following U. S. patents issued to Pacific coast inventors:

FOR WEEK ENDING JUNE 4, 1904.

762,511.—Scrip Meter—G. E. Beach, Oakland, Cal.
762,375.—Removing Snow—D. W. A. Beaudette, San Bernardino, Cal.
762,377.—Valve Gear—S. L. Berry, Nogales, Ariz.
762,378.—Waist Holder—F. S. Boedefeld, S. F.
762,574.—Igniter—A. J. Bradley, Oakland, Cal.
762,379.—Trolley Wheel—J. S. Briggs, Los Angeles, Cal.
762,576.—Wash Boiler—J. L. & J. L. Brobst, San Mateo, Cal.
762,580.—Crushing Mill—J. M. Dyer, Douglas City, Cal.
762,395.—Baling Press—W. Eisenhauer, Spokane, Wash.
762,581.—Self Adjusting Waist—Louise Fogus, S. F.
762,476.—Frost Preventer—J. W. Fulton, Pomona, Cal.
762,708.—Sparking Device—R. B. Hain, Los Angeles, Cal.
762,406.—Valve—S. S. Herrick, S. F.
762,585.—Harvester—F. S. Holley, Stockton, Cal
762,588.—Stove—S. W. Jackson, Selma, Cal.
762,416.—Separator—R. W. Jessup, S. F.
762 637.—Animal Exterminator—J. O. Johnson, Visalia, Cal.
762,728.—Fountain Pen—J. W. Langdon, Walla Walla, Wash.
762,729.—Door Opener—T. E. Lee, Chulavista Cal.
762,425.—Electrical Battery—J. R. Lord, S. F.
762,546.—Reference Device—A. H. Merrill, Florenee, Cal.
762,835.—Gate Opener—H. C. Morgan, Eugene, Or
762,595.—Sash Lock—J. H. Moskow, S. F.
762,435.—Underreamer—O'Donnell & Willard, Los Angeles, Cal.
762,553.—Calipers—P. S. Palmer, Spokane, Wash.
762,862—Fire Arms—R. M. G. Phillips, Los Angeles, Cal.
762,556.—Wrench—C. U. Reams, Suisun, Cal.
762,660.—Oil Burner—L. A. Schulze, S. F.
762,496.—Pile—E. A. Smith, Colby, Wash.
762,601.—Storing Oil—A. J. Smithson, Portland, Or.
762,499.—Vacuum Lifter—J. H. Sprague, Seattle, Wash.
762,447.—Explosive—E. Steele, Mill Valley, Cal.
762,448.—Rotary Engine—A. T. Stinson, Eureka, Cal.
762,772.—Coat—F. Terramorse, S. F.
762,506.—Axle Nut—A. Uren, Seattle, Wash.
762,774.—Concentrator—Van Meter & Boss, S. F.
762,781.—Vehicle—J. S. Walker, Anderson, Cal.
768,448.—Underreamer—A. Willard, Los Angeles, Cal.
762,790.—Working Ships—W. Williams, Oakland, Cal.
762,793.—Bottle—C. M. Young, S. F.

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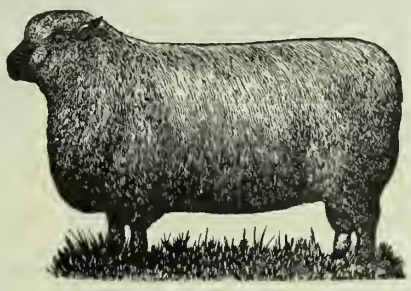
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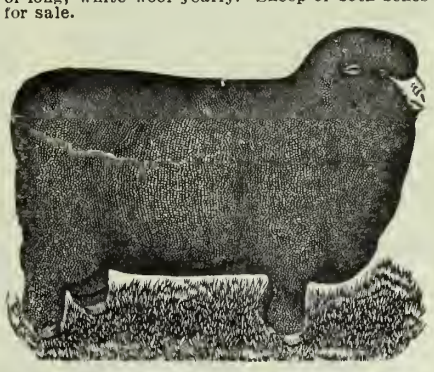
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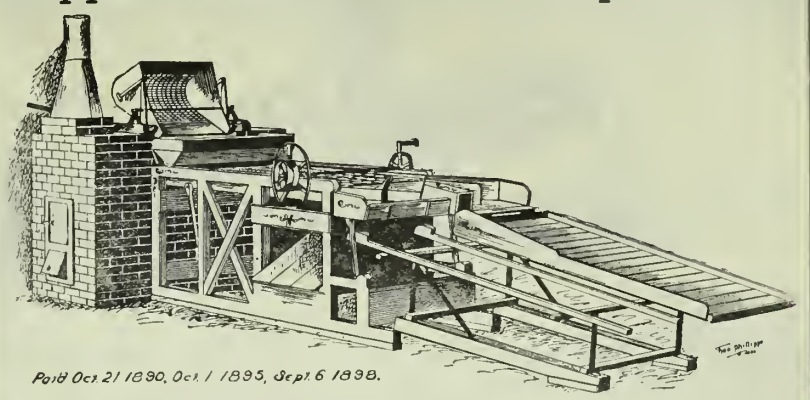
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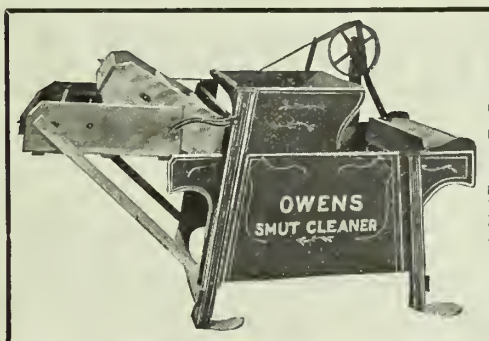


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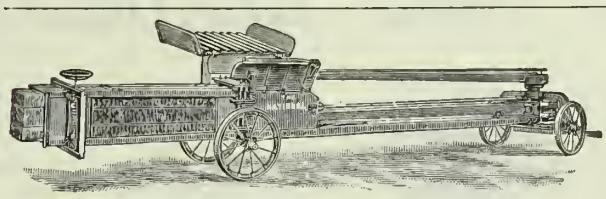
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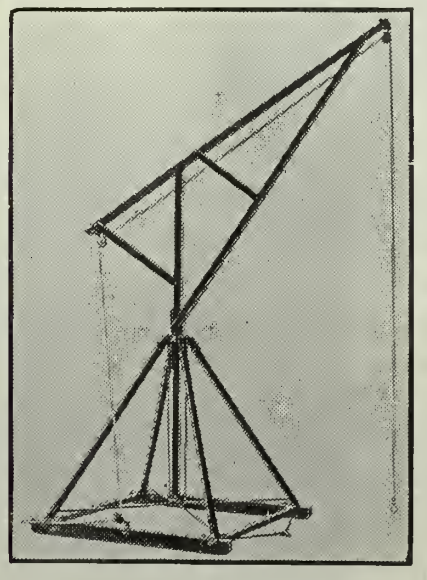
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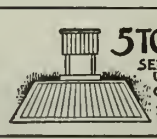
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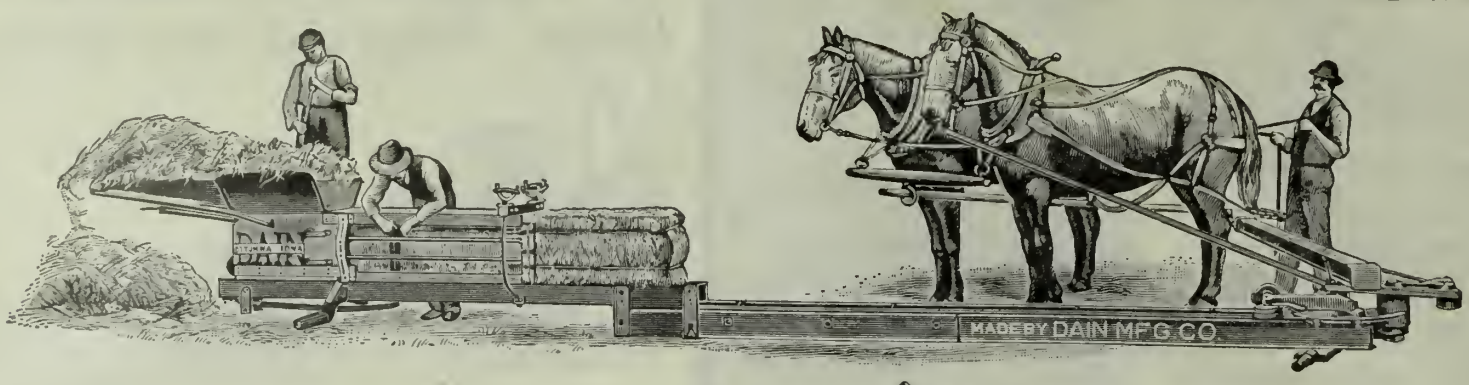


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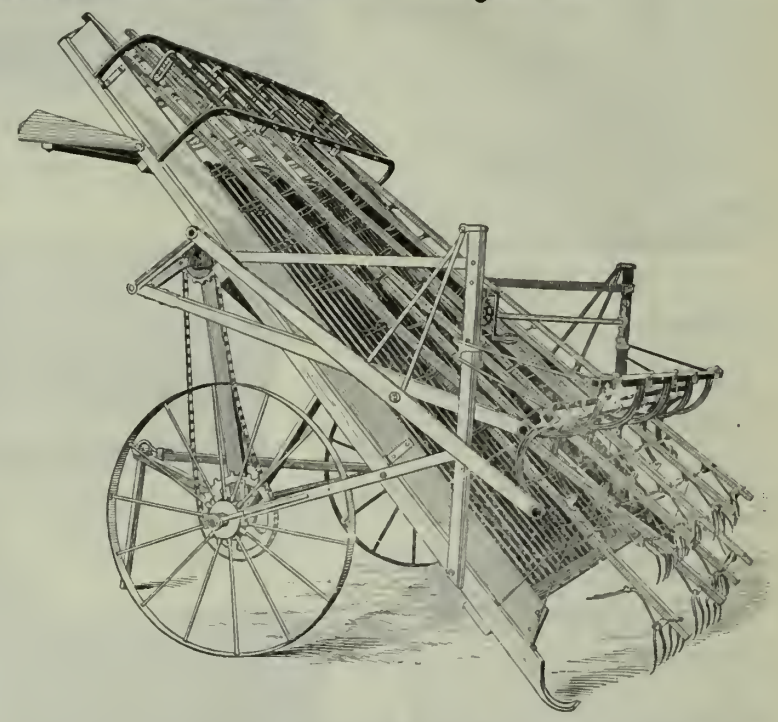
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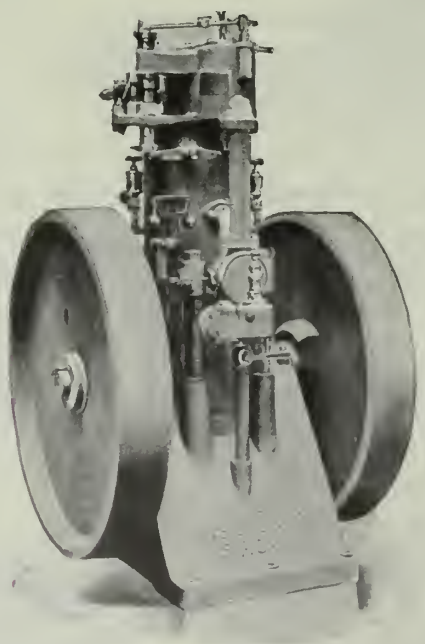
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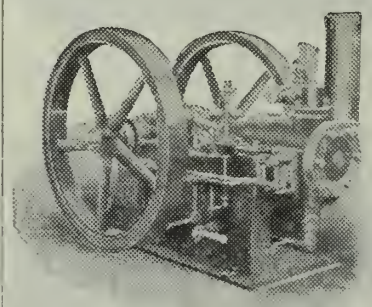
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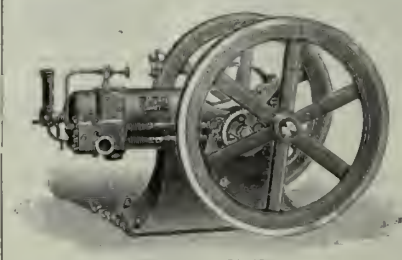
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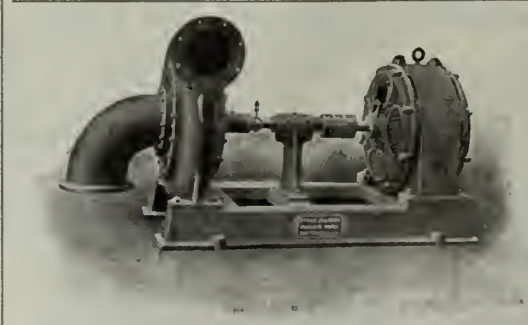
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THE PACIFIC RURAL PRESS

AND CALIFORNIA FRUIT BULLETIN.

Vol. LXVIII. No. 2. SAN FRANCISCO, SATURDAY, JULY 9, 1904. THIRTY-FOURTH YEAR. Office, 330 Market St.

In the High Sierra.

We turn this week to the mountains and proceed to their crests. Last week we displayed the picturesque at sea level upon the coast of northern California, this week we are up nearly 2 miles in the air upon the great divide which separates the chief part of California from the interior regions of the slope. It is true, however, that California has also possessions on the east of the high ridges, and it is to unite these diverse regions east and west of the Sierra Nevada that road building by the State is proceeding under the direction of the Department of Highways, as we have described in earlier issues. We select two views adjacent to the projected course of this great Sierra wagon road this week, chiefly with intention to contrast the sides of the high ridges. The first picture shows the more abrupt and rocky character of the east side. Its rapid descent from the highest elevations to the floor of the valley in Mono county as contrasted with the more gradual descents, including many ridges, each lower as one goes westward until he finally passes through a long stretch of low foothills to reach the floor of the San Joaquin valley. This abrupt descent on the east and the gradual shelving on the west are characteristic of the Sierra Nevada generally. This is economically fortunate, because it gives the largest area of gradual slopes where conditions are best for forest growth and for upland agriculture. The quite prevalent characters of the west slope of the Sierra Nevada are seen in the second picture, which particularly represents the headwaters of the Tuolumne, with parts of its highest watershed still showing the snows which yield their water to its flow as the summer season advances.



Levining Creek, Near Tioga, Cal., Showing Character of Country on East Side of Crest of Sierra Nevada Mountains.

Both pictures display the characters of the High Sierra country. Open park-like valleys are surrounded by rugged snow-clad peaks, in the shadows of some of which are living glaciers, the remnants of a once extensive ice field. In some instances the scenery is grand, great canyons having been cut deep into the rocks by ice and water. There are numerous glacial lakes, and meadows which were at one time lakes, now filled with sediment. Timber is abundant and water for power and all other purposes is obtainable in almost every ravine and canyon. These conditions favor mining and there are numerous mining districts, forming a mineral belt which extends along the region near the crest of the Sierra for many miles. Mills have been built, aerial tramways erected and other improvements made, but most of this was at a time when metallurgy had not reached the advanced stage it now occupies. Comparatively little new development or equipment has been made within the past ten years, but within that period a marked advance in metallurgical knowledge has been made, and if it were not for the difficulties of transportation these districts would be active at the present time.

The long winter season, with its deep snows and tempestuous weather, has constituted a material drawback to the steady and successful operation of these mines, but the construction of a State highway over the Sierra through the Tioga district, will make many of these old isolated camps more easily accessible.

Speaking of road building, the upper picture is suggestive of its difficulties. Looking northeasterly down the canyon of Levining creek, as in the picture, one is struck by its roughness. Yet, in picking out a road at this point, far less difficulties are met than in Mono Pass, and the connecting distance between the Mono county roads and the Tioga road proper is about 7½ miles shorter than by the Mono Pass. Again, by building the road along the route shown in the picture, no encroachment on the Park reserve is made, and conflict between Government and State is averted. It is the best road pass for a range length of 250 miles of the Nevadas. Already 4½ miles of a road is constructed up the canyon shown in the engraving.



Head of the Tuolumne River, Cal., Showing Character of Country on West Slope of the Sierra Nevada Mountains.

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E. J. WICKSON. ..... Horticultural Editor

SAN FRANCISCO, JULY 9, 1904.

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The Week.

The National Holiday passed quietly and affairs are now fairly launched upon the second half of the year. There is, however, too much of an exciting nature in the political atmosphere to favor steady industrial respiration. The issues of the nominating conventions are still engrossing public attention and then the actual campaign will follow. The distraction caused by the World's Fair, which we hear has already largely induced the eastward movement of nearly 20,000 Californians during the last three months, also acts against local attention to business. And yet the general testimony is that progressive affairs are very active in most parts of the State, and that the thousands we have sent eastward are more than made up by the throng of those who have recently entered the State. All California affairs have a very active and promising look.

The figures show one very interesting thing about the eastward movement of fruit, and that is that in spite of the local demand for cherries for canning and pickling for export the fresh shipments of cherries overland have been about the same as a year ago. It has been rather a moderate cherry crop, and yet the trees newly come to bearing helped out the aggregate, with the result stated. The cherry has a good outlook in places which are good for it.

Wheat is still inactive. Two ships are under charter, but one is for barley and the other miscellaneous, and wheat stands still. But futures on wheat are higher in sympathy with the advance in Chicago. Spot wheat is unchanged. The bear movement on new barley continues, but choice old barley is stiff and choice new is likely to be. Oats are firm for the best of the old crop. Beans are steady and quiet. Bran is rather easier and shows a slow decline; middlings are a light supply and unchanged. Hay is quite out of shape here and country sales are said to be above city quotations. Beef is steady, mutton firm, lamb higher and veal unchanged, while hogs are rather easy—there being a light demand for all except choice medium weight. Butter is firmer and being strongly pushed up, and eggs are in the same fix. Choice new cheese is still moderately firm and other grades abundant. Poultry is unsatisfactory, as there was quite a carry over from the preceding week, mostly of common stock. New potatoes have been rather weak, but are recovering. Onions are steady and in fair supply, with moderate demand. Tomatoes are here from Los Angeles, Mexico and Mississippi—the latter hardly bringing price enough to be profitable. Cantaloupes are arriving from the Sacramento river—the Coachella cantaloupes are lower, but their watermelons are selling at 1½ cent per pound, with Fresno melons expected next week. Dried apricots are quoted at 8¼ cents per pound in 25-pound boxes, carload lots, while fresh apricots are selling here about as last week, with a range of $25 to $40 per ton. Dried peaches are quoted at 5¾ cents up to 7@7½ cents, and dried pears at 6 to 8½ cents. Domestic sales of prunes are noted at 2¼-cent basis price, or 2½ cents for large sizes, while buyers for Europe are talking only of 2 cents. Almonds are sought for and one house is trying to concentrate the crop for its own selling. There is a little new honey in and not much doing. Hops are weak and dull and foreign markets are slow. Wool is strong and scarce; it is getting nearly time to hammer values for fall purchases, but so far a high barometer rules.

Some months ago we had the pleasure of commending the California type of traction engine and other tackle for steam plowing to our readers in South Africa, in answer to a question from them. We are glad to see that the same type is being accepted in Argentina in such a way as to strongly approve the commendation which we made, and the assurance of it comes in a forcible way, in the form of a letter by Mr. John Samson, editor of the South American Journal, to the Mark Lane Express of London, England. Mr. Samson says:

The American traction engine is rapidly ousting the British type. It is claimed that it is lighter and can get more easily over the ground, and, in fact, can cross places where the heavier English engine would be stuck. The system of short stroke with rapid revolution is said to be much better for the requirements of the conditions than the older pattern. Many American engines are being sent out with English threshers. The price of the American engine is also considerably less. It was long an axiom at the River Plata that the English threshing machine could hold its own against all rivals. This is no longer the case. American threshers are daily becoming more in use, and for the simple reason that they are able to do much more work in a given time. An English threshing machine will turn out 1500 to 2500 bushels of wheat per day and require the services of eighteen to twenty-one men; whereas the American machine will deliver 4000 to 6000 bushels and only require the aid of eight to ten men. In a country where harvest hands are scarce and highly paid—as much as $1.44 per day with food—this is important.

And yet our English friends come to California, observe the operation of our light and effective machinery, and go away still of the opinion that their own heavy, very durable types are what the world should want. John Bull is very conservative on this point and seems disposed to fight it out on his ponderous lines while the newer countries are continually being captivated by the lightness, capacity and superior cheapness in first cost and rate of work which are characteristic of American machinery. We ought not to complain, because the longer the Englishman adheres to his notion the wider will be the field for our machines. Still it rather hurts our feelings at not being able to convert him to better notions. There will soon be another chance, for it is cabled from London that eighty members of the House have announced their intention of joining the parliamentary party which will visit the St. Louis Exposition in the autumn. It is expected a number of others will also go. If they do not get an awakening on the matter at the World's Fair let them take to the American fields where the machinery is being regularly used in the operations of crop production.

Arrangements are pending to secure greater truth and purity in grass and clover seeds. By an act of the last Congress the Secretary of Agriculture is directed to obtain in the open market samples of seeds of grass, clover, or alfalfa, test the same, and if any such seeds are found to be adulterated or misbranded, or any seeds of Canada bluegrass are obtained under any other name, to publish the results of the tests, together with the names of the persons by whom the seeds were offered for sale. The collection and testing of seeds began on the first of the present month.

QUERIES AND REPLIES.

Women in California Horticulture.

TO THE EDITOR:—I am thinking of going to California to live and thought of taking up horticulture and poultry raising and perhaps agriculture. I have just a slight knowledge, enough to raise some early vegetables and small fruits. My work as trained nurse has been very confining and I want an entire change. Kindly let me know what you think would be my prospect of success and the best place to locate, and the probable cost of a small place of a few acres?—ENQUIRER, New York.

A number of energetic and enterprising women are supporting themselves by poultry growing and horticulture in different parts of the State. They succeed by virtue of their thorough devotion to the business, mastering all its details and meeting all its requirements by constant effort, having to do very much work in the open air, because in these smaller enterprises success is conditioned on helping oneself as far as possible and reducing expenditure for hired help to a minimum. Wages are high in California and satisfactory assistants are scarce. Those women who succeed possess not only great devotion, great capacity for work, but seem also to be possessed of considerable business ability, which is manifested in their success in finding special customers for their products at a little above ruling market prices, and they hold these customers by furnishing produce of better grade and in better condition than that which is handled in a wholesale way. It is exceedingly desirable in an undertaking of this kind that one should have enough ready money to meet expenses incident to beginning. If the small piece of land can be bought and paid for outright that, of course, is a great advantage. It is not possible to indicate particular localities in which this work can best be done. It is possible in the vicinity of all of our larger cities and towns, and the matter of location then becomes one of personal choice. Our climates vary greatly and the best place for each settler is the one which seems best to meet individual tastes and desires. The price of thoroughly good land, with a sufficient water supply (and one should not begin a small enterprise without both these things), will vary according to local conditions from $100 to $250 per acre. It is seldom desirable to decide upon the location in California from descriptive notes alone. Sight of the land and study of its surroundings are safer. It is possible to come to California at reduced rates, and money expended in a personal visit before final decision is made is usually the best investment one can make.

Australian Bunch Grass.

TO THE EDITOR:—Can you inform me as to whether any experimenting has been done in this State with Australian bunch grass. And if so, in what part of the State was grass planted and with what success? Any further information you can give concerning this matter will be appreciated, as I desire to secure data on this subject for parties in Nevada.—READER, San Francisco.

There is no grass known to us as "Australian bunch grass." In order to determine accurately whether the plant was brought to California or not, we should have its botanical name. There is, however, a grass which was brought here from Australia and is commonly known as "Australian rye grass." It has proved to be one of the best grasses introduced in California. It has a habit of bunching when growing under rather dry conditions, just as many other grasses do, but it is hardly safe to assume that it is the plant which your Nevada correspondent desires to know about. We may say, however, that the "Australian rye grass" has proved to be the most drought-resistant plant of any pasturage and meadow grasses which have been tried here. It retains its life in the root during the dry season in the coast valleys, and in the moister parts of the interior valleys as well. It will not, however, live throughout the dry season on the dry slopes of the coast mountains, nor on the plains of the interior valleys. It is now very largely grown in the Stockton region because it not only stands drought well in that district, but it is also uninjured by the rising of water, and it can outlive overflow and submersions for a considerable time. It is also growing successfully in the dairy district of San Mateo county, and there are several hundred acres reported successful in the Napa valley. We are

freely commending it to all who desire a drought-resistant grass in all except the driest parts of the State. For these parts we have not found anything which will make satisfactory summer growth without irrigation. If it is possible for you to get the botanical name which belongs with the term "Australian bunch grass," we will try and ascertain what has been done with that plant.

Australian Salt Bush.

To the Editor:—What are your conclusions concerning the practical value of Australian salt bush, and the soils and aridity under which it can be made profitable?—Enquirer, Los Angeles.

Your question as to the actual value of Australian salt bush is rather difficult to answer. The seed has been planted by a great many people in various parts of the State and the growth of the plant upon soils containing a considerable amount of alkali has been demonstrated by different growers, thus verifying the conclusion reached at the University Experiment Stations, but whether the plant can be considered worth growing on a considerable scale has not been fully demonstrated. Professor Piper, who is connected with the Agrostological work of the U. S. Department of Agriculture, is now engaged in an investigation of the uses made of salt bush in California. From his early inquiries he has gained the conviction that although the plant has been widely distributed it has not demonstrated sufficient value to encourage any considerable growth of it; in fact, there seems to be reason to apprehend that it has not proved as valuable as was anticipated from the early experiments made with it. The investigation which Mr. Piper is conducting may be followed by some experiments for the purpose of demonstrating on a considerable scale whether actual feeding tests will verify the conclusions as to its value arrived at by analysis. We shall be very glad to receive information from salt bush growers as to the conclusions which they have reached in the course of experience with it.

For a Disbarked Fig Tree.

To the Editor:—I have three black fig trees, quite large and about twelve years old, that have had the bark eaten off all around and up about 2 feet, lately, by hogs. Is there anything I could do to save the trees?—Reader, Knights Ferry.

The saving of your fig trees depends upon arranging conditions so that the bark may be renewed from the outer edges of the denuded area; also by granulation from small fragments of the inner bark which may not have been removed. The new bark will start from exceedingly small points of this kind, provided they are prevented from drying. Treatment consists in making an application which shall keep the surface slightly moist and yet admit air enough to prevent decay. There is probably nothing better than the mixture which has been used by horticulturists for generations, and that is to make a plaster of about equal parts of clay and cow manure. This latter substance contains fibrous material enough to hold the clay from cracking and the clay itself is retentive of moisture. Make an application of this mixture about 1 inch or more in thickness all over the wounded portion, and then draw a piece of burlap tightly around to hold the plaster in place. Water should be thrown upon the outside occasionally to prevent drying out. If this is successful, the wood may be kept from cracking and hardening until the new bark is formed. The fig tree will maintain its life for some time, although the outer bark is removed, but the future of the tree will depend upon the restoration of the bark in order that there may be proper communication between the foliage and the roots in the return flow of the sap.

Ginseng in Humboldt County.

To the Editor:—Can one obtain reliable ginseng seeds and plants from those advertising them? Is growing ginseng a profitable industry, and have you made experiments to show the growth of the plant in this State?—Reader, Humboldt county.

We have very serious doubts whether ginseng can be profitably grown anywhere in California; if so, it must be in your part of the State, where a certain amount of atmospheric moisture can be counted upon during the dry season. Nothing but an experiment will demonstrate the success or failure of the plant with you. It has usually failed in California. There is quite a question whether the industry is profitable —except the present phase of it, which is largely promoted for the sale of plants to others and is, probably, quite profitable, because a wide demand has been developed by the general interest awakened by free advertising. We presume that all reputable firms will furnish you the true plant. There seems to be no reason why they should not.

Ask the Trees Themselves.

To the Editor:—On a 100-acre ranch I have about forty-five acres in fruit, mostly from four to seven years of age. The soil is all sedimentary loam with a subsoil of gravel over clay. Water is present at all points from 3 to 5 feet deep and the orchards are between creeks that still have water running in them, though they will be dry all summer. Between these creeks runs an irrigation ditch that is at present carrying about 600 inches of water. The ditch is not well made and leaks badly, so that the sub-irrigation from it is considerable. The four-year-old trees have only had sub-irrigation to depend upon and are the largest trees for their age in this vicinity. The older trees have been irrigated directly so much that the soil in some places seems to have precipitated, or settled. I am told that this is due to too much surface irrigation. All the trees seem to be making good growth this year. The peach crop is light, but the fruit is large and the foliage bright. The prune crop is not only good, but the fruit is about twice as large as it was this time last year. Now my questions are these: Should an orchard from four to seven years of age, and with water so close, be irrigated while the moisture is so close to the surface and after so heavy a rainfall as we had last year? If the ground dries later, should I turn on the water or should I irrigate at a certain stage of the fruit development anyway? And, if the latter, just when? —D., Tehama county.

The thrifty condition of your trees thus far is due to abundant moisture, with the gravel substratum as a surety against excess, because any surplus is able to move away rapidly. We should use less surface water and cultivate well to keep the soil surface from compacting. The gravel streak, however, which helps your trees by drainage early in the season, may hurt them by drying out too much in the summer and fall, and if your fruit gets small in size and the trees do not hold foliage late enough, you must use some water in the furrows and follow with the cultivator when dry enough to work well. No one can give you a date for this. You must study the growth of the trees and the fruit and learn from experience when to irrigate, because the trees need it.

Leaf-Eating Larvæ.

To the Editor:—I send you herewith a twig from the top of a four-year-old prune tree. Please tell me what the pest is and what treatment is necessary for both immediate arrest of the pest and for winter work to prevent its reappearance.—D., Tehama County.

The injury was apparently done some time ago by some leaf-eating larva which has passed on and cannot now be detected. Unless you have many manifestations of this depredation you need not be concerned about it at present, for there are many insect larvæ which can do such work but are never abundant enough to cause injury. These insects have to be watched for and detected while at work. If they are abundant a spray of Paris green must at once be used. On the prune and peach this poison must be used in less strength than on the apple and pear; one pound to to 250 gallons of water is usually safe.

The Best Shade Tree.

To the Editor:—Kindly tell us which tree is considered the best to be grown for shade in a climate similar to that of California. Would catalpa answer? —E. C. H., San Luis Potosi, Mexico.

It is hard to say which is absolutely the best tree for shade in California. The question would be answered differently by many people according to local conditions of soil, climate, moisture supply, etc. Undoubtedly the eucalypts, one or more of the several species which are successful in this State, would be most widely approved. The catalpa cuts a small figure in California, though it is good in some places. Probably not less than 100 eucalyptus trees are planted to one of any other kind in the valleys and foothills where the tree is hardy.

Not the Pear Blight.

To the Editor:—I send a limb taken from a pear tree. Is it to be connected with the blight that has appeared in my orchard this spring? These large limbs exuding sap have appeared in my pear orchard for many years. As a precaution I am now sawing them out.—Grower, Vacaville.

This is merely a slight exudation of sap from some unknown cause. It merely makes an irregular wet place on the bark and the tissues beneath are alive and not blackened. We should not cut merely for the purpose of getting them out. At the same time as it affords a chance for the lodgment of germs we should dose such places with a brush and Bordeaux mixture to kill any germs that might be present.

WEATHER AND CROPS.

Report of the U. S. Weather Service for Week Ending July 4, 1904.

Alexander McAdie, Forecast Official and Section Director.

Sacramento Valley.

Cool weather prevailed during the week, and conditions were favorable for all crops. Grain harvest is progressing rapidly and threshing has commenced. Wheat, oats and barley are of fair quality, but the yield is light in most places. Most of the grain is being stored in warehouses. The hay crop is large and of good quality; baling and stacking are in progress. Hops are looking well and a fair crop is probable. Dry feed is plentiful. Fruit shipments from Sacramento are much lighter than last season's. Apricots are yielding a very light crop in nearly all sections. There will probably be a large crop of pears and a fair crop of prunes, plums and peaches. Almonds are thrifty and olives are making rapid growth. Grapes are in excellent condition and the yield will probably be heavy.

Coast and Bay Sections.

The weather continues cool and generally favorable for all crops. Strong winds June 28th and 29th caused but little injury to fruit. Fogs prevailed in the coast districts and light rain fell in some sections. Grain harvest is progressing rapidly and thrashing will commence soon. Wheat, oats and barley are yielding very good crops in most sections. Hay harvesting and baling continue; the yield is better than usual in some places and the hay of superior quality. Hops, sugar beets, beans and vegetables are doing well. The acreage in sugar beets is smaller than usual. Dry feed is still plentiful. Fruit shipments are reported lighter than last season's, but considerable quantities are going East from San Jose and Vacaville. Apricots in San Benito county are yielding a good crop. Grapes are in first-class condition and a heavy crop is expected.

San Joaquin Valley.

Clear and seasonable weather prevailed during the past week, with high wind on Tuesday, which caused slight damage to fruit in some sections. Grain harvest continues in all sections. Barley is a fair crop, but wheat is generally light and shows the effect of early dry winds. Haying continues in some places and baling is progressing. The fruit crop is ripening rapidly, and in some localities is good. Peaches, nectarines, figs, Tragedy and Simoni prunes are ripe and being shipped in large quantities. Canneries and dryers are in full operation. A large crop of melons is being harvested. Grapes are making good progress and a large crop is expected. Orange prospects are very good, but lemons will be a short crop. Feed is getting scarce, but stock are healthy and in fair condition. Irrigation water is getting low.

Southern California.

Fair weather continued during the week, with fogs along the coast. Grain thrashing is in progress, and in a few places the yield of barley and oats is reported fair. The hay crop is light. Sugar beets and beans are in good condition and give promise of fair crops. Walnuts are doing well, but the yield will probably be less than average. Peach trees are in poor condition and the crop will be light. Apricots are of fair quality and the yield is light. Melons are plentiful. Vineyards continue in good condition, with prospects of a large yield of raisin, wine and table grapes. Oranges are doing well.

Eureka Summary.—Hay harvesting is progressing rapidly. Oats and barley are in fine condition and will yield a heavy crop. Vegetables are making healthy growth. Dry and warm in the interior; rain needed. Strawberries are abundant and of excellent quality.

Los Angeles Summary.—Apricot harvest begun; crop reported small; peaches also promise light crop. Irrigating in full progress, as soil seems unusually dry.

Rainfall and Temperature.

The following data for the week ending 5 A. M. Wednesday, July 6, 1904, are from official sources and are furnished by the United States Weather Bureau for the Pacific Rural Press:

California Stations.	Total Rainfall for the Week	Total Seasonal Rainfall to Date	Total Seasonal Rainfall Last Year to Same Date	Average Seasonal Rainfall to Date	Maximum Temperature for the week	Minimum Temperature for the week
Eureka	.46	.46	T	.02	60	52
Red Bluff	.00	.00	.00	T	100	52
Sacramento	.00	.00	.00	T	88	54
San Francisco	T	T	.00	T	62	50
Fresno	.00	.00	.00	T	96	54
Independence	.00	.00	.00	.01	92	62
San Luis Obispo	.00	.00	.00	.00	78	50
Los Angeles	.00	.00	.00	T	80	56
San Diego	.00	.00	.00	.01	70	60
Yuma	.00	.00	.00	.04	108	68

THE STOCK YARD.

Shorthorns in California.

NUMBER I.

Written for the Pacific Rural Press.

At the State Fair at Sacramento last September, while talking with a number of gentlemen, all interested in good stock, the conversation drifted to the strong display of superior cattle on exhibition, and then turned to the discussion of how much was due to the early importers to California of registered cattle, and the names of Ashburner, Howard, Maillard, Carr, Rose, Pierce, McEnespie, Stanford, Emerson, Montgomery and Cook were mentioned in quick succession. Some had imported Jerseys and Holsteins, others Polled Angus and Devons, several had brought Shorthorns—all good, useful cattle in their respective spheres—and all had left their indelible mark in the history of California cattle breeding.

The Elder Howard Shorthorns.—Ben. Rush, president of the State Board of Agriculture, who was one of the group, said: "I never shall forget the dairy cows I saw on the Howard ranch at San Mateo, about twenty years ago. There were 100 head in the herd that was kept at what they called the 'New Dairy.' It had just been built, and Mr. Howard and his superintendent, Mr. Goodhue, selected from their grade Shorthorns the number to fill this barn. It was a grand sight—every cow was a superior individual and a fine sample of what the Shorthorn could do in the dairy."

This was very interesting to me, because I had been told by the late Barney Horn, one of the earliest and best-known butchers in the State, of a visit he had made in the early 60's to the Howard ranch at San Mateo to purchase some of the pure bred Shorthorn cows that had been fattened there for beef, and how fine they had killed out.

I was naturally then delighted to learn that the Quinto herd of Shorthorns, which the day before I had been watching with interest in the show ring, were the descendants of this same San Mateo herd, and that when the late Wm. H. Howard sent his herd of registered cattle from San Mateo to his Quinto ranch, he changed the name of the herd accordingly to correspond to the place where the breeding was carried on.

Recent Victories.—Walking back to where the cattle were stabled, it was a pleasure to look at them again and see the merit in the different individuals from the standpoint of the previous history recounted.

Mr. Dunlap, the herdsman in charge, told me that two years ago the cattle were shown for the first time at the State Fair. He had then brought up seven or eight bulls that had been only a few weeks off the dry range, and consequently in poor show condition, and they had attracted so much attention that the next year (1902) he had fitted some heifers for the Fair and made a larger exhibit.

"We did pretty well that year," he said, pointing to the Herd Banner, on which I counted twenty-four premiums of 1902; and then he showed me a bunch of forty-one ribbons for 1903, awarded to the fifteen head of the Quinto herd that were before me in their stalls.

"Have you many more of these good cattle?" I inquired.

"Well," said Mr. Dunlap, "we have about 200 head in the herd, and I think they are all right good ones. The foundation stock was good, and we have been using only first-class bulls like this (and he put his hand on Chief of Valley View 4th, a beautiful roan bull, that I have seen awarded the purple ribbon for Junior Champion bull). Of course, Royal Fashion there (and he pointed to a massive, deep red two year-old bull) is one that nobody can find fault with, but you ought to see old Spicy—he is a 'crack-a-jack.' You don't see his good points with one look, and he is a wonderful breeder. Look at these heifers—they are all by him, except Ramona 10th and Mystery 29th—and the bulls are all his calves. Did you ever see them nicer and more even? Of course, we have a lot of excellent breeding cows, as you can see by these young things."

The Importance of Type.—Mr. Dunlap introduced me to Mr. Hunt, the superintendent of the Quinto ranch, and I told him of the previous conversations and that I was glad to see a herd of such qualities being kept together and shown. On mentioning the 100 head of cows at the New Dairy, San Mateo, I found that it was a familiar subject to Mr. Hunt.

"Indeed, they were a fine lot," said he. "I was at the city end of the dairy, and whenever we wanted an extra supply of milk we tied a message on the return cans (there were no telephones those days) to send up more milk, and Goodhue would put more feed into the cows and they responded with the milk. It is just like giving an engine more steam to give the right sort of cow more feed. You get action, and you get it quick, too. We kept the records of supply from that dairy, and it averaged 100 cans a day (300 gallons) through the year—a can to each cow. At that time we raised bulls from the Registered Herd to use on the milking cows, and we saved and raised the best heifers to go into the dairy.

"When Mr. Howard bought the Quinto ranch and began raising beef cattle he simply changed the type of the herd bulls used with the Registered Herd to these thick-fleshed, round-bodied, early-maturing kind, with the result that we are reproducing that same kind of animal in our herd, and we find it to be a very profitable beef type. And right here let me emphasize the point that we ought to carry in our minds more clearly the distinction between 'type' and 'breed.' Now if I should say that the Shorthorn is the most profitable beef breed, which I think it is, I would have the Angus, Hereford and Devon breeder after me with a club, and, without dodging the issue, I want to give them the credit they deserve for also producing some of the best types of beef cattle; but the Shorthorn goes further in reproduction of type than any other breed—the Shorthorn breeds on.

"Mr. Edward Howard wrote a very interesting article on the subject of type, in answer to one that appeared in one of the live stock papers, in which the claim was made that we needed information as to which was the best breed. Wallace's Farmer, too, says there is much valuable time lost by many dairymen in trying to choose a breed. Now, my motto would be: 'Get cows; get the best cows you can, but get them.' And, if I found that I could buy better than I could raise, would keep on buying; and if I could breed and raise better than I could buy, would keep on raising.



Chief of Valley View 4th 182590 in His Yearling Form.



Ramona 10th. Mystery 29th.



Spicy Heifers.

"While the value of type in the dairy cow may depend largely upon her milking test, the measure of type in the beef breeds is as easily made clear. Take, for instance, the practical corn feeder of the middle West. When he goes to Omaha or Chicago for a car of feeders he gets those that look to him to be the type that will feed well and give him the most return for his corn in pounds of prime meat. They might all be 'white faces' or 'doddies' or Shorthorns, or they might be a mixed lot of each breed, but the practical feeder would get them as near as he could to the best type.

"And, again, when these cattle are shipped to the Omaha or Chicago market as a finished beef product, they come under the supervision of expert judges who wear plug hats and draw down $10,000 a year for simply sitting on the stockyard fences and classing these cattle according to what the live appearance indicates the value of the dressed carcass would be. Here again is a 'type,' and these best cattle are called 'market toppers.'

"With their hides off the distinctive feature of breed ceases and the animal becomes simply so many pounds of beef. And in this we see the commercial end of a breed as known by the breeder and feeder. But here again type comes into play and outlives breed, and the commercial value to the slaughterer depends upon the adaptability of the carcass to cut up to the best possible advantage and command the

highest price. You see, you want to breed for the highest commercial end, and that is type.

"You often hear it said that a herd of a certain breed has run down. The herd may still be registered Jerseys, Holsteins, Shorthorns or Herefords, but by careless breeding the representatives that may have once been typical in their classes have become inferior, causing any amount of unjust comment or criticism in a breed that in the hands of a thinking, careful, painstaking breeder would have improved.

"How often have you heard it said, 'Oh, don't breed this or that; they are no good. Jones or Brown had a fine herd of them twenty years ago and they have all run out. He has got to change his breed.'

"Now, as a matter of fact, better representatives of the different breeds are being produced, and the careful breeder who has the type in mind is watching his own production, striving to improve or at least maintain as high a standard as his circumstances will permit.

"Five years ago Mr. Wm. H. Howard imported two bulls—Kingalier and King Spicy. At that time the Quinto herd bull was Prince Townley, a roan of the Bracelet family and of Bates breeding. Kingalier and King Spicy both were by the Scotch bull Gold King, but Kingalier was out of Orange Bloom, a heavy milking cow, largely Bates, while King Spicy was out of imp. Spicy 5th, a Scotch cow bred by Jas. Bruce of Aberdeenshire, and said to have produced more show calves than any of the Scotch cows imported to America. You see, Kingalier then is only a Scotch top, but King Spicy's breeding is straight Scotch.

"This fine roan cow, Ramona 10th, is a Prince Townley. She was first in State and second in open class for three-year-old cows, and she is in fine condition. Next to her is Mystery 29th, by Kingalier (and he led the way to a deep red cow, smooth and thick fleshed, with a fine bag denoting a generous flow of milk and with a very fine red heifer calf at her side, which showed signs of the best possible start in life with such a mother to draw from). Mystery 29th was placed next to Ramona 10th," said Mr. Hunt, "and although she took two ribbons she is not in condition to show with this great big calf on her, but we wanted to show the cow and calf together. It is a pretty sight.

"Next to Mystery 29th are the Spicys, Philomena 65th, Spicy's Hopeful 2nd and 3rd, and the four bulls, Spicy 30th, 38th, 50th and 53rd. Spicy 38th is a half brother to Mystery 29th, being out of the same cow. Do you see the difference between the types of the Spicys and Ramona 10th and Mystery 29th? And do you see what one good Scotch cross will do? See how it thickens and trims them up.

"Now, take the show ring performance of these bulls—and you know that Carlyle is judging them for their beef characteristics. Spicy 38th was second in the open class and second in State class, being beaten only by our herd bull, Valley View 4th. You see, when we can raise them as good as Spicy 38th we have to get the best herd bulls we can or we would go behind. Spicy 50th was first in open and second in State class, and Spicy 53rd was second in these two classes for bulls under twelve months old.

"Take the Spicy heifers, now. Spicy Hopeful 2nd was second in State and second in open class for heifers eighteen to twenty-four months old, and Spicy Hopeful 3rd was first in open and State classes for heifers over twelve and under eighteen months old, while in the second classes for heifers under twelve months there was nothing to it but Spicys, and we took all three premiums in each class.

"Now, the Spicys took so many premiums because they were more nearly the highest type of the profitable and desirable Shorthorn than any of the others exhibited. They were the kind that feed well and look well, alive or hung in the butcher's stall; and when we call King Spicy the 'champion sire of the Pacific coast' we think he has squarely and fairly earned the title by the uniformity of his get and their performances in the show ring.

"Men walk by here and ask if our cattle are the 'milking strain' or the 'beef strain.' They have an idea that the so-called 'beef strain' of the Shorthorn gives very little milk, and that, vice versa, the so-called 'milk strain' is no good at all for a beef animal. If they would only lose sight of the word 'strain,' which I suppose meant originally the blood lines in an animal's pedigree and later became to designate the particular purpose for which the animal was being used, and instead use the word 'type,' see how logical and proper it would be, and there would not be such a confusion of ideas.

"Mr. Ashburner designates his cattle as a herd of 'dairy Shorthorns,' giving them that name from their type and use, and their 'milking' or 'dairy' type and capacity have been improved from their use and breeding for dairy purposes.

"We think any good Shorthorn cow should be a good milker, and that the inherent milking qualities of the Shorthorn can be stimulated and developed by function as well as breeding; and the combination of function and intelligent breeding by selection would result in a 'milking type' of Shorthorns of the conformation and class that the Holstein breeder would call an 'improved type.'

"We raise our calves right on the cows. We don't want to get too many of these big, deep milkers. Where we have so many cows running out we can't always watch them carefully enough, and the first thing you know a cow gets a spoiled bag and then she is disfigured. The milking duty on our cows is considerably lessened by use, but the milking quality is there just the same.

"Now, you take a good look at the herd yourself, and you will see something of the merit of my claims. See how smooth and even the Spicys are, and they show their adaptability to make the most prime meat. Then look at Mystery 29th, by Kingalier, and this roan cow Ramona 10th, by Prince Townley. They are both excellent milkers, but Mystery is smoother and the result of a cross by a better type of bull for our use than Prince Townley was. Now, I call either Ramona 10th or Mystery 29th a good 'dual purpose type,' or 'double decker,' as it is sometimes called, but the name I like best is that of the 'farmer's cow,' because that appeals to me and I know what it means. Not being the type of the 'specialized dairy cow,' the 'farmer's cow' is not such a thorough milking machine, but her performance at the pail is excellent, and she will also raise a fine calf of a good beef type; and if we want to fatten and sell the cow, look at the shape she has to put the meat onto.

"We showed a Spicy cow here last year—Hopeful 57th—and she was awarded the grand sweepstakes for the best Shorthorn cow of any age, and there were lots of them shown. Hopeful 57th was a beef type and a beautiful, rounded form that filled your eye like Spicy 38th there. Remember, we are supposedly all breeding for what we can make the most money in, consequently we should breed for the type that gives the greatest return for the money invested, selecting for that purpose those animals which give evidence of promise of the best results to be obtained from concentration of blood and future use and breeding.

"It is information and study of condition and type we want, and it will be a happy day for me to see the California College of Agriculture located on a good big farm and professors teaching in a practical way hundreds of our California boys how to improve conditions and make the best of what nature has given us in soil and climate.

"Briefly, the point I make is this: After your use or requirements are known, buy or breed that which comes nearest to filling the bill. You see you can change the type of a breed by selection and breeding for that type, and to improve or maintain your type you must concentrate the blood of those best fitted for that purpose.

"A few words about breed and then I am done. From what I have shown you here you will see the superiority of a breed that in the hands of an intelligent farmer can be moulded to a desired type and is capable of reproducing itself and perpetuating that type. You may cross bulls of other beef breeds with your range cows and the result of the first cross may be fairly good, but in the next you will probably get an undesirable type from some point of view, but the good Shorthorn improves your range cows.

"The Shorthorn is an elastic breed. Let me tell you what I mean by that. About two years ago I was in the city office and Mr. Edwards of San Jose and Mr. Pickering were talking about the new steam and electric plant they had just had built for the San Jose Electric Co. they were managing. And Mr. Pickering made the remark that there was a great deal of economy, after all, in getting the best kind of a plant because it was so 'elastic.' I asked him what he meant by that, and he explained to me that the plant was a direct connected three-phase generator that you could get either power or light off of, that it was so designed that it had lots of reserve if you had to call on it, or you could run it at low capacity, and at either extreme it was economical, and run at its full load—in its 'dual capacity' of power and light—nothing could beat it.

"Now, you have seen and heard about the 'three phases' of the Shorthorn, and the breed is finding its way into every nook and corner of the earth, doing good everywhere and preaching its own gospel by its own work.

"You may be tired of hearing it, but if not, and you still feel interested in Shorthorns, come down to the Quinto one of these days and see old Spicy and the cattle at home."

I agreed to do so, and a few days ago received a note from Mr. Hunt, reminding me of my promise to come to the Quinto ranch, and saying it was a good time to see the cattle, and that there were a lot of new arrivals and fresh aspirants to look at.

(TO BE CONTINUED.)

An Acknowledgement.

TO THE EDITOR:—The Exposition extends you a full measure of grateful acknowledgement for the important service you have so kindly rendered your readers, and especially intending exhibitors, at the World's Fair, by the frequent publication of information of great interest to breeders fitting stock for the show, and to men most likely to be benefited by an examination of the unprecedented exhibit of live stock assured for the Live Stock Show of the Universal Exposition of 1904. The final edition of the Prize-List of the Live Stock Department of the Exposition will be sent to exhibitors upon application to the undersigned. The grand total of prizes to be awarded in live stock classes is $438,702.25.

CHARLES F. MILLS,
Chief of Department of Live Stock.

St. Louis, June 27.

HORTICULTURE.

Horticultural Laws and the Nurseryman.

By M. MCDONALD, President Oregon Nursery Co., before Pacific Coast Association of Nurserymen.

An examination of recent horticultural legislation lately enacted in various States and Provinces of the United States and Canada bearing directly upon the sale and distribution of nursery products between one State and another, and often between one county and another within the same State, leads one to wonder whether the propagation of nursery products is a legitimate calling, or one that should be classed with gambling and other disreputable business that must be licensed and controlled under police regulations.

NURSERYMEN'S WRONGS.—If the nursery business is a legitimate one in which honest men may engage, why is it that they are put under such restrictions, while the orchardists that surround them are allowed to have infected and diseased trees, and ship fruit that is not only diseased but infested with insect pests, without any objection being raised by the authorities, and often with their consent and approval. There must be something fundamentally wrong with a law that can single out one particular branch of a business, and the citizens who engage in this particular branch, while others whose goods are just as dangerous, and more so, to the interests of the country, are not subject to any restraint whatever.

Primarily, horticultural laws were supposed to be enacted in the interests of horticulture generally, and as a protection to all branches of this industry, but instead of being enforced in the interests of the whole people, the nursery business alone is singled out as the one branch of horticulture in which it is necessary to enforce these laws, and as a consequence the nursery business often receives great injury from the ignorance and prejudice of horticultural inspectors while the real breeding grounds of disease and insect pests—old orchards, parks and private grounds—are allowed to continue to propagate these diseases and insect pests, regardless of the danger to the nursery that may be located close by, and while the nurseryman is supposed to keep his trees and plants free from disease and insect pests, or the appearance of them, the old orchard goes unchallenged as a menace to his business.

OTHER OFFENDERS.—There is not a more careful or painstaking class of men to be found anywhere than the nurserymen, always trying to grow their trees and plants clean and healthy and free from diseases of all kinds, while the fruit grower is often allowed to ship his fruit over the entire country indiscriminately, without restraint or inspection; yet the nursery is not allowed to move a single tree or plant until it has been inspected by some person appointed as a horticultural inspector who knows infinitely less about these pests and diseases than the nurseryman does himself.

If it is a misdemeanor for a nurseryman to propagate his trees and plants in a State where scale or other insect pests may have been found (as would appear from the laws enacted in many States) it ought to be even a greater crime for orchards, and other infected trees, to be allowed to grow and propagate insect pests and diseases in close proximity to a nursery without any action being taken on the part of the inspector or other horticultural officer, as is too often the case, thus endangering the very existence of the business that has been compelled to bear the whole burden of horticultural laws.

In studying this question, we ask why are these things so? Any honest, intelligent man who will study the question carefully, must admit that nurserymen have been unjustly dealt with in the enactment and execution of horticultural laws, and why? Probably because the formation, enactment and enforcement of such laws have been left largely to politicians and office holders, while the fruit grower and nurseryman, the party most interested in this subject, has been content to sit back and leave the enactment of such laws to men who do not know anything about the requirements of such legislation, and care less, for the business of the citizens who may be engaged in it.

WHAT SHALL BE DONE.—As a protection to his business, shall the nurseryman attempt to have these laws entirely expunged from the statute books, or will it be wiser for the nurserymen to organize so that they may guide legislation in the future and see that horticultural laws are enacted, and those already enacted revised so that horticultural interests are amply protected and no branch of the busi-

ness injured thereby. The nurserymen should see to it that not only the horticultural laws are remedied, but that they are so constructed that all orchards, fruit parks and private grounds, and other places of danger to the propagation of diseases and pests, are inspected and kept clean, and that the same laws, rules and regulations are applied to these nurseries. How can nurserymen be expected to have clean trees and plants when orchards surrounding them are infected with all manner of diseases and pests? When the horticultural authorities see to it that parks and permanent trees are kept clean and free from diseases and insect pests, there will be but very little call for a nursery inspection, for there will then be no source from which the nurserymen's trees and plants can be infected.

That much good has already come from horticultural laws no intelligent nurseryman will dispute, and we do not think that anyone would want to go back to the old slipshod method of doing business, but we do believe that nurserymen should be accorded the same treatment and have the same protection as others, and the same rules and regulations which are applied to the nurserymen should also be applied to orchardists and those having dangerous or infected trees and fruit.

Organization.—In order to accomplish this end and receive justice, the nurserymen of the country must organize, and this can probably best be done through the National Association, and in such a manner that all laws bearing upon their business will be reviewed and bills brought before the various legislatures modifying and reconstructing present laws so that they will work in harmony, fairness and justice to all concerned. This can only be done by a strong, permanent organization that will be prepared at all times to take hold of legislation when bills are about to be presented to State legislatures; for so long as the nurserymen of America allow the office holder, and those who live off the prosecution of these laws, to formulate and pass them through the legislature, so long will they be made to bear unjustly upon the nursery interests, and the only relief is for the nurserymen to organize and see that these bills when they come before the various legislatures are prepared in such a manner that they can be honestly and fairly enforced, and that protection which is necessary be given to all the parties interested. It is quite useless for an individual nurseryman to fight horticultural authorities when he has been unjustly dealt with, for as a rule a horticultural officer is not financially responsible himself, and we do not know of a single case where the State compels such an officer to be under bond, although they are often clothed with authority to condemn and destroy the property of a nurseryman.

Smoking Against Frost.

California can give the French points on frost prevention if the following statement sent to the Department of Commerce and Labor from U. S. Consul Haynes at Rouen, France, covers the best they have done:

M. Bignon has recently addressed to the French National Society of Agriculture a note giving interesting information on the efficacy of artificial clouds in preventing late frosts. For many years he has successfully practiced this. His vineyard thus protected covers about fifteen acres and is divided into five parts, separated from east to west by walks 12 to 15 feet wide and circled by an avenue of equal width. These walks facilitate the placing of the fires, which are built in a small basin sunk into the earth and filled with fifteen or twenty pounds of resinous matter and some pieces of pine and other vegetable debris. The basins are some 50 feet apart.

In 1903 the frosts were very heavy for a week, and recourse was had four times to artificial fires. The total expense was $400. The effect is stated as having preserved 25% of the harvest, or some 125 or 150 barrels of wine.

It is stated that any substance can be burnt which gives a thick and abundant smoke, such as green herbs, moss, damp straw, tufts of grass, etc., but best results have been obtained in France by the heavy oils which are the residues of gas.

California has been doing this for some years successfully, and probably has frost prevention reduced to systematic form beyond that which is done elsewhere.

THE FIELD.

Another Account of California at the World's Fair.

To the Editor:—California's State building and attractive agricultural exhibits in the World's Fair Palace of Agriculture were dedicated Tuesday afternoon with appropriate ceremonies by Governor Pardee, assisted by the California commissioners and World's Fair officials. California's free-handed hospitality was everywhere manifested, and the throngs of invited guests were royally entertained.

The dedication of the California agricultural exhibits was first on the programme. It was conducted by Governor Pardee, whose brief, but telling address, was responded to by President Francis of the World's Fair, in an address complimenting the great State of California on her wonderful resources as shown in the beautiful exhibits.

The dedication of the California Golden Wine Temple in the Palace of Agriculture was a very interesting event. Mrs. Pardee, wife of California's Governor, christened the Golden Temple with pure California wine amid plaudits of the assembled throngs. The Golden Temple is a beautiful pavilion, resting upon five golden pillars, crowned with a golden canopy placed upon bottles of wine. The outer walls are covered with gold and carry shelves containing 1400 bottles of California wine.

Grape vines with rich leaves and clusters of grapes hang from the center pavilion to the outside walls. Two attractive nooks have been reserved, one as the office for Ferdinand A. Haber, chief of the Department of Viticulture of California, who is in charge of the wine exhibit, and the other as a sample room where visitors may enjoy the pure life-giving wines of California.

The Golden Wine Temple was placed at the World's Fair by California wine growers and wine merchants. It is a unique and beautiful creation, due largely to the efforts and zeal of Chief of Viticulture Haber, who worked out the color scheme and prepared the interesting wine exhibit.

California claret punch, cake, nuts and oranges were served at the Wine Temple dedication, after which the California State building was dedicated, and Governor Pardee and the California Commissioners held a reception for the invited guests. At the head of the line of reception stood Governor and Mrs. Pardee. Frank Short of Fresno, Cal., introduced the guests to the Governor, who in turn introduced them to Mrs. Pardee. Next to Mrs. Pardee stood Commissioner and Mrs. Frank Wiggins, Commissioner and Mrs. J. A. Filcher and other prominent Californians. Other distinguished guests at the reception were Colvin B. Brown, Charles L. Wilson, C. N. Merritt, Theo. Gier, Dr. R. M. Green, G. G. Johnson, F. A. Haber, H. E. Hyde, Mrs. F. Ehrman, Mrs. Gleason, Miss Ronder, Miss Hyde and the California Commissioners having charge of the county exhibits. Music was furnished by the University of California Glee Club. Refreshments were served and California's guests enjoyed a delightful afternoon and an abundance of whole-souled hospitality.

"The gorgeous climate of California" and the wonderful products of that State are much in evidence at the World's Fair in St. Louis. A glance at the beautiful booths in the Agricultural Palace, filled with the finest products of that State, speaks volumes for California's soil and climate, for among these exhibits are fruits peculiar to the torrid as well as to the temperate zone.

California's State building is unique and strikingly attractive, being modeled after the famous old Santa Barbara Mission building in the State. It occupies a place of prominence and is one of the most frequently visited State buildings at the fair. It is conducted with true California hospitality and is open to the public every day until late in the evening, not being closed at sunset like many of the other buildings. The interior of the building is a very cosy place and is growing in popularity with World's Fair visitors.

So accurately has the old Mission been reproduced that even the coloring has been duplicated by giving to the California building a tone to indicate the age of the structure after which it has been modeled—a building erected before California became a part of the United States.

In the Palace of Agriculture, California is seen to best advantage, where several of the leading agricultural counties have separate exhibits. San Jose and Santa Clara county have reproduced an old Spanish Mission church and covered the entire building from dome to floor with California fruits, dried peaches, prunes and apricots serving that purpose. The building attracts the attention of all visitors and is getting admired for the originality and the artistic taste with which it is arranged. On top of the building is a miniature reproduction of Stanford University, resting like a white crown upon the quaint old Mission.

The Fresno and Kings counties display is one of the most beautiful in the building, with an exhibit of raisins that excites the envy of the great raisin producers of southern Europe.

Many fine garden vegetables in jars constitute another interesting feature of this attractive display.

Los Angeles and the southern counties are grouped together in the center of the California section, and the exhibit is like a little palace decorated with rows of oranges set in clusters of moss on a dark green velvet background. Between the pillars are pyramids of peanuts tastefully arranged, while cases of wine and jars of nuts and fruits and boxes of dried fruits form a delightful picture in a frame of golden oranges.



California Building at the St. Louis Exposition.

Sacramento valley, with a bear made of prunes, a horse made of hops and a towering reproduction of the California capitol dome, attracts no little admiration, and the fine products displayed proves the wonderful richness of that section of the Golden State.

Santa Barbara county's exhibit contains an obelisk made of 2000 bottles of olive oil. Olives and honey in jars, bunches of grapes, peanuts, grain and grasses, and fruits of various kinds comprise the decorations of this pretty pavilion.

Orange county has a pretty exhibit of grasses and grains, jars of nuts and fruits. Ventura county has a fine exhibit of fruits, nuts, vegetables, olives and olive oil and a large elk made of beans.

California's horticultural exhibits in the Palace of Horticulture contains a most beautiful collection of fine fruits, which must be seen to be appreciated. Here are the fresh fruits, while in the Palace of Agriculture are both preserved and fresh fruits.

In the Forestry, Fish and Game building, California has another great exhibit. Here the beautiful woods of California are shown, both in the rough and polished state great slabs of timber from the California forests being shown.

In the Mines and Metallurgy building, California, the great gold producer, has an appropriate display showing its wonderful mineral resources and diversified products. In fact, California figures quite prominently in every important department of the World's Fair and the outside world is given a better idea of the wonders of this great wonderland by seeing the California exhibits at St. Louis.

Agricultural Review.

Fresno.

PEAR BLIGHT IS BAD.—Republican: The Horticultural Commissioners have filed the following report with L. R. Williams, clerk of the Board of Supervisors: "Mr. Chauncey has continued his visits to the orchards throughout the county and finds that the pear blight is worse, if anything, than a year ago, and is killing a great many trees. The board has had printed 2000 copies of 'Remedies for the Control of Insect Pests and Plant Diseases.' These will be distributed among the growers for their guidance in spraying this winter."

Kern.

ARMY WORMS' INVASION.—A Bakersfield dispatch says: The farmers in the Rosedale section of this county and in that vicinity are having their crops seriously endangered by an invasion of army worms, thousands of the pests swarming over the country. By digging ditches across their path the invasion has been partially checked. Reports from Tulare county, north of Kern, tell of similar troubles around Porterville.

Los Angeles.

APRICOT YIELD.—Pomona Progress: The crop is uneven in all sections, some of it being of extra good quality and some of extremely poor quality. It is anticipated that there will be a shortage of help in handling the crop, as people have not been expecting so much work in the fruit business this year. Prices will rule a little higher than last year, owing to shortage in other places and the large amount of poor fruit. The fruit for canning will probably bring between $12 and $25 per ton, while the dried fruit will sell from the yard at about 7 cents per pound, as against from $14 to $16 for canning and 6½@9 cents for dried fruit last year.

Mono.

THOUSANDS OF SHEEP.—Fresno Democrat: Superintendent C. S. Newhall of the Government Forest Reserve has been notified by Superintendent J. I. Taggart of the Stanislaus reserve that he has issued transit permits for 100,000 sheep to pass through the reserve to the eastern side of the range in Mono county. Several bands of sheep from the vicinity of Fresno are included in this lot. The sheep will pass by the Sonora and Mono road. The pasturage in the reserve for cattle this year is good and the work of the rangers is in good shape. The season for fires is close at hand and a close watch is being kept in the hope that fire devastation may be kept at the minimum.

Orange.

MODEL WALNUT ORCHARD.—Anaheim Gazette: Mr. Neff's twelve-year-old walnut orchard southwest of town is attracting considerable attention among growers, not only on account of its fine appearance, but because of its large yield of nuts. The crop in many localities is light, not near so large as estimates a month ago indicated. While other orchards have fair crops, Mr. Neff's trees are fairly outdoing themselves, some of the trees having, it is estimated, fully 150 pounds of nuts. Walnut growers say when nuts form in clusters of twos and threes the crop will be heavy. Trees in this orchard not only have clusters of three nuts upon a stem, but of four and even five well formed nuts. As a general rule the trees seem to be roofed over with nuts. The crop promises so well that Mr. Neff makes no estimate of the size. A number of grafts set out this year have taken on this spirit of activity and bear nuts, in cases to the number of four or five. These nuts will be picked off this week, and similar treatment will be accorded them until they are four years old.

Sacramento.

GRAPES $300 PER ACRE.—Galt Gazette: Local grape growers are almost certain to receive $15 a ton for their grapes f. o. b. in Galt this season. San Francisco and San Jose wine makers are already making overtures on these figures to the growers for their crops. Pete Denevi expects a yield of twenty tons and over to the acre on a small vineyard near Galt, and at $15 per ton will receive as high as $300 per acre for his season's product.

LIGHT OAT CROP.—The harvesting of the oat crop is nearing completion in the Galt district. The yield is generally light, but in some spots a fair crop is being harvested. George Bland is getting twelve sacks to the acre off his ranch near Clay. The land is new, however, and this is the first crop ever raised upon it.

FIRST BARTLETT PEARS.—Bee, June 29: Over 100 boxes of Bartlett pears were included in the shipments of California fruits to the East to-day. Most of these pears were grown on the ranches along the Sacramento river. Seventy-eight boxes were from the Reed orchard in Yolo county, just across from Sacramento. The pears were all full sized, and much care was taken in gathering them. Only two or three pears were taken from each tree. At this early season the work of picking the pears is slow, and one man picks but two or three boxes in a day. Pears will be plentiful in a few days, and there will then be a big jump in the number of cars of fruit shipped to the East every day. The crop this year is large, and promises to exceed that of last season. Hayward Reed, who is managing the Reed orchard across the river, to-day received word from Chicago that the first boxes of pears, shipped by him several days ago, were sold. The fruit brought $4.50 a box.

San Joaquin.

HEAVY ACREAGE IN GRAPES.—Lodi Special to Sacramento Bee: Grapes continue to give every indication of being the best crop in years, and the fruit will be in at least two weeks earlier than last season. This year over 10,000 acres will be yielding. In San Joaquin county there is an acreage of 13,000 vines, and the Lodi section contains all but 3000 acres.

San Luis Obispo.

LARGE TABLE TURNIPS.—Tribune: John Cattoir of Corbit canyon has raised some turnips already this season that will soon be exciting the wonder of World's Fair visitors. Mr. Cattoir brought five to the Board of Trade rooms. These turnips are of a table variety, yet they weigh from seven to eight pounds each. They are quite round or globular and the dimensions of the circumference are the same no matter how measured. The smallest of the five measured 20 inches in circumference and the largest measured 22 inches in circumference. The turnips in the field from which these were obtained are still growing and will continue to grow all summer. Those on exhibition are in prime condition for use, but larger specimens obtained later would not be as good.

TWELVE FOOT ALFALFA.—Edward Bell of Arroyo Grande has some record-breaking alfalfa. It was raised on his Arroyo Grande farm without irrigation and stands 12 feet high. A sample was forwarded to the St. Louis Exposition.

WATERMELON BLIGHT.—Paso Robles Record: The watermelon blight has again threatened to annihilate the watermelon vines in this section. In Oak Flat the blight is said to be very bad, and at Vincent Corballey's place, near Estrella, the whole patch is threatened. The University was communicated with by the melon growers of this section, with the result that a professional agriculturist has been sent out by the agricultural department to ascertain the cause of the disease and apply a remedy.

Santa Barbara.

TWIN COLTS.—Press: John Troup, who has charge of Mr. Edwards' ranch near Goleta, reports that he is raising twin colts, which are now over two weeks old. It is a very rare occurrence that either of twin colts live more than a few hours.

Santa Cruz.

GREEN AND WOOLLY APHIS.—Watsonville Pajaronian: Notwithstanding the fact that the number of green aphis eggs left over from last year on apple trees in this valley was unusually small, the pest is showing up in great numbers at present and is doing much damage. This pest devotes most attention to young trees, and its favorite point of attack is on the outer ends of limbs where the growth is tender. Two good formulas to use against this pest are as follows: Whale oil soap and water at the ratio of one pound of soap to seven gallons of water. A decoction of tobacco at the ratio of one pound of tobacco to one gallon of water boiled from one to two hours is also first-class. The best method of applying these remedies is to place the mixture in a shallow pail and go through the orchard dipping the ends of limbs in the vessel. This should be done three or four times a season and the trees will be freed from the pest and made healthy. In this connection "two birds can be killed with one stone" by the man who is looking after the green aphis. He should take with him a small bottle of kerosene and a small paintbrush, and, when he sees limbs on the trees affected with woolly aphis, touch them up with a little of the coal oil. This means death to the woolly aphis.

Shasta.

GOING INTO THE BUTTER BUSINESS.—Anderson News: A Battle Creek correspondent has obtained from the Senior Stewart, of the Battle Ceeek croamery, now in course of construction, some details of the newest industry in Shasta county. The shortage of feed at present, said Mr. Stewart, would prevent his bringing in all of his cattle. Just now he has twenty-five cows here. The work of planting all the available land for pasture is being rapidly pushed forward, and as soon as lumber can be procured buildings for the creamery will be erected. Mr. Stewart says with two men he can produce with the separator and churn he has now 300 rolls of butter per day. He hopes, with the co-operation of the people here, to increase the output to 2000. He will put in a cold storage plant later on and manufacture his own ice, the water in Battle creek, which is the power by which the churn is run, being too warm for washing butter. At present a cellar built down to the water level will be used in which to store the butter. Anderson will be the shipping point for the butter, and at the present rate Mr. Stewart says by spring he will be in readiness to furnish all the butter that Redding, Red Bluff and other northern towns can use.

Sierra.

CATTLE EAT NITRO-GLYCERINE AND DIE.—Loyalton special to Sacramento Bee: A Swiss, living on the old Kirby ranch, 2 miles below Beckwith, came in Friday, complaining that ten head of his stock had been poisoned and had died from eating nitro-glycerine belonging to the Boca & Loyalton Railway Company. Horace Lewis, of the company, with Dr. Coats, visited the terminus of the road and found five head dead close to where workmen last fall had left a box of nitro-glycerine. They took the Swiss' word for the other five. The stock had broken open the box and eaten the paper saturated with the poison and some of the sawdust in which the nitro-glycerine was mixed.

Solano.

GRAIN AND PEAT FIRES.—Rio Vista special to Sacramento Bee: A number of grain fires have done considerable damage in the island section during the past week. A small fire destroyed about an acre of barley on Ryer island the first of the week, and on Friday afternoon a fire started on the barley field of H. F. Smith, on Brannan island. It is reported that a fire is raging on the peat soil of Twitchell island, which is not yet under cultivation, and water is being pumped on the island to put it out. The peat soil will smoulder for a long time, and the sod will completely burn out for a depth of several feet. The only way to check such a fire is to fill the island with water. A peat fire is one of the most serious of the many dangers the island farmer has to contend with.

NEW CANNERY.—The new cannery at Rio Vista is about ready for operation. This cannery has all the latest and most improved machinery for canning fruit and vegetables. The plant cost in the neighborhood of $60,000. This amount has been raised by subscription for stock by people residing in the vicinity. The cannery will be in running order and work will begin July 21st, in time to pack some Bartlett pears and peaches. The biggest run will be made on the tomatoes and string beans, and the island farmers have planted a large acreage this year for this enterprise.

Stanislaus.

GRAIN YIELD IRREGULAR.—Newman Index: Some observers say the average crop will be less than last year, which was only considered a half crop. Others are more sanguine and estimate the average at as good or a little better than 1903. The largest yield reported so far is seven sacks to the acre, but this is on what is probably the best piece in this section. Some pieces which have been flooded will go as high as fifteen sacks. One piece of barley near Crow's Landing, which was flooded from the Orestimba creek, will, it is said, average forty sacks. The section north of Newman is making better returns than that south. It is said there is practically nothing south of Cottonwood. The foothill country west of Crow's Landing seems to have rather better crops. Judge Walden's place will yield eight sacks and some others there will make ten.

Tehama.

ALFALFA WITHOUT IRRIGATION.—Red Bluff News: The new field of alfalfa, planted last spring in the Star orchard, where Maurice Duncan took up the fifty-year-old fig trees, has done exceedingly well, and he thinks it will not need irrigation during the summer months. The alfalfa is on made land, which overflows at high water, and he thinks that in a couple of years or so the roots will go down to water, which in summer is not more than 16 to 18 feet below the surface. Alfalfa roots have been known to go as deep as 30 feet to find water.

HEAVY OLIVE CROP.—Corning News: The present outlook is that there will be a heavy olive crop this year, and we believe that with the right kind of handling nearly every bearing tree can be made to pay. We recently saw some olives that were put in cans here over two years ago, and every berry was in as fine condition as could be asked—firm and with a fine flavor. If a few dozen cans may be put up in that manner a thousand can be. It is just the same as with any other fruit—the good pays a profit and the poor does not.

EARLY APRICOTS.—Red Bluff Cause: O. J. Ames of Proberta has made the first sale of dried apricots that has been made this season. He sold his crop to the Tehama Fruit Co. 7¾ cents a pound. Mr. Ames had a fine lot of apricots and the price he received for them is the best that has been paid for this kind of fruit for a number of years.

Tulare.

WORMS AND GRASSHOPPERS.—Times: James Sweeney, a well known rancher, who resides near the Cottage postoffice, in what is known as the "swamp" district, states that great damage is being done in that section by the army worm, which is attacking grain, alfalfa and all vegetable growth. On a tract of land rented from Mr. Sweeney by Henry Enlow, a field of six acres planted to potatoes has been about half eaten by the worms. The tops were devoured level with the top of the ground. The remainder of the patch bids fair to be also devoured. Mr. Sweeney had a field of about fifteen acres of alfalfa which was visited by the worm. The young alfalfa was eaten as soon as a stalk made its appearance above the ground, and the piece of land is nearly as level as a floor.

NEW SPECIES OF ALFALFA.—Hanford Journal: L. M. Weigle, who resides near Tulare, has brought to A. E. Miot, manager of the Board of Trade exhibit, a sample of a new species of alfalfa—at least, to be raised in this section of the country. The alfalfa is known as the Turkestan variety, and was raised by Mr. Weigle from seed provided by the Government experimental station. The bunch was cut while in blossom and measures about 4½ feet in height. It resembles the ordinary alfalfa, known as Chilian alfalfa, though Mr. Weigle says it grows faster and appears to be more hardy. He planted the seed in February and on April 10th cut it to remove the weeds. The present crop was cut on May 29th. Whether the new alfalfa will provide better fodder remains to be seen.

BIG TREES.—Mt. Whitney Journal: Last year Forest Ranger Ernest Britten, on duty in the Sequoia National Park, assisted by Corporals Smith and Mosby of Troop I, Ninth U. S. Cavalry, made an accurate count of the sequoia trees in the north half of the northwest quarter of Section 6, Township 16 south, Range 30 east, Mt. Diablo base and meridian. The count embraced all trees in this 80-acre tract in the giant forest having a diameter of not less than 2 feet. The trees were tagged as counted, and the result was verified by a recount. A total of 185 trees was found, and of this number about 160 were not less than 10 feet in diameter. If these large trees are equally numerous in all parts of the giant forest—and the tract chosen did not appear to be an exceptional one—there are 6500 sequoias of great size in this splendid body of timber.

Yolo.

ILLNESS CAUSED BY SPRAYED BERRIES.—Davisville special to Sacramento Bee: Appendicitis has become quite a common affliction in this section. There are now two serious cases in the persons of two young women—so serious, indeed, that the final outcome in each case is doubtful. Several times recently people have been suddenly attacked by nausea and other sickness, the cause of which seemed usually traceable to strawberries. It has been frequently suggested that likely the berries are affected by the use of some spray mixture. The same thing is now noticeable from eating cherries that came from the vicinity of Suisun.

Horse Owners! Use GOMBAULT'S Caustic Balsam



A Safe, Speedy, and Positive Cure

The safest, Best BLISTER ever used. Takes the place of all liniaments for mild or severe action. Removes all Bunches or Blemishes from Horses and Cattle. SUPERSEDES ALL CAUTERY OR FIRING. *Impossible to produce scar or blemish.* Every bottle sold is warranted to give satisfaction. Price $1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars.

THE LAWRENCE-WILLIAMS CO., Cleveland, O.

WANTED.— In Southwest Texas,

on 40-acre artesian irrigated truck and fruit farm, experienced man, with family preferred. House and all implements furnished. Mention monthly salary wanted. Frank P. Read, Corpus Christi, Tex.

The Home Circle.

Uncle Dan'l's Platform.

"The colts are out yonder kickin' up
their heels like all git out;
The rooster ain't discouraged—my! jes
see 'im strut about!
The lambs are jest as frisky's though
they'd got a raise of pay,
And the gander out there's happy, if he
ain't got much to say.

"The birds are singing cheerful, hardly
stoppin' fer their meals,
And the old gray mare has even got to
kickin' up her heels:
When the wind blows through the alders
down along the crick, I vow
I can hear it sayin': 'Dan'l, ain't you glad
you're livin' now?'

"What's the use of anybody mopin'
round to-day as though
It might make the good Lord sorry to see
gladness here below?
I'm a-goin' out to whistle and to sing with
all my might—
Spring's come round again to show us
that the old world's rollin' right."

—S. E. Kiser.

Rags.

He was a most untidy dog;
I called him Rags because his crop
Of hair inclined to mat and clog—
Suggestive of a window mop.

I met him in the street one day,
He wagged his tail in friendly mood;
I guessed at what he had to say
And took him home and gave him food.

Poor Rags! how oft I've chided you
For your too friendly overtures;
Of all the friendship that I knew
That which I valued least was yours.

For I was rich, and, just like you,
Men sought my friendly nod to claim—
They had no tails to wag, 't is true;
They wagged their tongues—'t is much
the same.

Then Fortune turned her back on me.
The tongues are stilled; the tail still
wags.
I blush for man's duplicity:
Oh, Gratitude! thy name is Rags!

—Steeleplume.

The Seventh Man.

We climbed to the top of the hill, Sylvia and I, and sat down—she in the queen's chair, and I on a small rock at her feet. The queen's chair, so named by Sylvia, is a great, white rock, naturally curved into very fair semblance of a throne. Sylvia, her hand set proudly on her white, full neck, makes a fitting queen.

Sylvia's black fringed, purple eyes were quiet, her little mouth had pensive curves; even her dimpled chin was not piquant as at some times, nor defiant as at others. Sylvia is essentially a creature of moods, and her old guardian would not have her otherwise. A man, only yesterday, was telling me the beatitudes of his wife-to-be.

"She is always the same," he babbled. "One always knows how he will find her. A woman like that is a treasure hard to get."

I thought of Sylvia and smiled. It's because I never know how I am to find her that she charms me. Sometimes she is a gay little butterfly, flitting from one flower of speech to another; sometimes she is as grave as a nun. I have learned though not to believe too much in Sylvia when she is grave. Sometimes the wildest of crimson moods originate in a drab one.

"What do you see, Sylvia?" I asked, looking up at the dreamy face.

"The Sacramento river, forty miles away," she answered. It looks like a white thread with a knot tied in it. I suppose the knot is a steamboat."

"I suppose it is," I said absently. "Do you realize that there are only five days more?"

"Only five days," she assented, bringing her gaze back to me, I thought. But no!

"Oh! The manzanita is in bloom. Please bring me a piece."

I obeyed as one harks to his queen, but I remonstrated as one reproves a child.

"It is a matter of half a million dollars, Sylvia."

She sighed. "Money isn't everything, she said tritely. She laid the pink blossom in her lap, and added: "But money is very handy after all, isn't it, guardie? Tell me about it again."

So, as one repeats a nursery rhyme to the child who knows it, but who delights in its recital, I told "it" again to Sylvia.

"Your mother died at your birth, your father a month later, leaving you no relative in world but me. An eccentric old man adopted you because he had once loved your mother, and he died when you were 10 years old."

"And you were 35," interposed Sylvia.

"That doesn't come into the story," I frowned. "This man appointed me your guardian, and left a will by which his fortune becomes yours if you are married on the 15th day of June, 1904."

"My 20th birthday," murmured Sylvia.

"If you are not married the money goes—"

"To the dogs," laughed Sylvia.

I smiled. "To found a hospital for the cure and maintenance of infirm canines; and there are only five more days."

"You left out something," she said, taking up the flower again. "You must approve the marriage, and you are a very, very distaut relative."

"So distant that the relationship wouldn't count if—I mean that even this remote tie of blood makes me take a great interest in your getting your fortune. Haven't you chosen yet?"

"I've had six offers," she said frankly, and refused three. There's now left Tom and George and Joe," she counted on her slender fingers. "Tom, and George, and Joe! I can't marry Tom, guardie. He tells such unreasonable stories. Why, he told me last night that out in Iowa, or somewhere, there was a cyclone which blew straws from a strawstack right through standing trees."

I grinued.

"But George and Joe don't exaggerate."

"George is too—well—womanish. He came to call on Kate the other day when I was there. She was busy with her piece work that she delights in so, and was showing me a crazy-work quilt that she had ready to put together. George sat down on the floor and laid the blocks as he thought they ought to go. I don't want to marry George. He would be showing me how to make the quilts his mother used to piece."

"Joe is truthful and manly," I said, albeit grudgingly.

"Joe is a dear, but I am not good enough to be a minister's wife."

"Nonsense! You're too good for any man on earth!" I said sharply.

Sylvia smiled down upon me. When Sylvia smiles with her purple eyes as well as her red mouth it makes one wish he were not getting gray over the temples.

"Do you wish me to marry any of them, guardie?"

"Something tightened in my throat, but I spoke calmly, very calmly.

"Of course, your old guardian does not want to lose you, but he is anxious for you to get your fortune, and the time is very soon."

"Isn't there some other way? Don't lawyers sometimes make loopholes, or something?"

"They sometimes do," I answered. "But they can't in this case. It's the dogs or a husband. Sylvia, in five more days."

Her eyes were looking forty miles away again, and my eyes were looking at Sylvia. The faintest line of color showed in her rounded cheek, it touched her dimpled curl above her little ear. Sylvia turned to me with the shyest of lights in her pansy eyes.

"There's another," she faltered.

"Ah! I heard a rustling under the manzanita bush. I went down and threw a stone at it. When I went back I stood facing her.

"He is the seventh man. The ancients thought there was luck in the number seven; but you know the stipulation—I must approve."

"He is good, and he has honest hazel eyes," she began slowly, "and a splendid chin. He is't poor but I'd rather take manzanita blossoms from him, if he could give me nothing else, than to accept orchids from a prince. I should rather live in that little two-roomed house with him than with a king in his palace."

There was a rift in Sylvia's voice as she finished.

"But he has never asked me to marry him, and I guess he never will."

"He must be a darned fool then!" I remarked savagely.

Sylvia laughed softly.

"That's one thiug I didn't mention. He is. But if he doesn't ask me to-day, I am going to ask him. It's leap year, you know. Why shouldn't I? I wish, though, he would ask me. I should so much rather he would, dearest."

The last word was whispered, but I heard it.

"You can't mean me?" I croaked, bewildered.

For answer, Sylvia left her throne and came down to me. She pointed the manzanita blossom toward the Sacramento river, forty miles away.

"See, dear. The sun strikes the river, and it looks like a band of gold. It looks like—" she hid her face on my stupid shoulder, and my arms closed around her. "It looks like a wedding ring."—Ina Wright Hanson.

Evil of Wrong Thinking.

Wrong thinking is indicative of weakness; it is, indeed, a species of insanity, for a wrong thinker is continually tearing down and wrecking his own mental and physical structure. The right thinker is the only sane thinker, and he is the happiest as well as the most successful man. He knows better than to keep constantly tripping himself up with the adverse thought which produces destructive conditions.

We all know the disastrous effects of wrong thinking. We know by experience how it cripples us mentally and physically. Physicians are well aware that anger poisons the blood and that fear, anxiety, fretting and all other inharmonious thoughts seriously interfere with the normal action of all the bodily functions. They are also alive to the fact that anxiety or apprehension of impending disaster, if of long duration, is liable to bring on paralysis. It is an established fact that a mother is not only seriously affected by her own thought, but that it affects her infant to such an extent that the same symptoms and conditions from which the mother suffers are reproduced in the body of the infant. Selfishness, jealousy and envy long indulged in tend to produce serious liver troubles and certain forms of dyspepsia. Lack of self-control and habitual indulgence in violent passions shatter the nervous system, lessen the power and induce grave disorders. Worry is one of the greatest enemies of the human race; it carves its deep furrows wherever it goes; it carries gloom and unhappiness with it; it delays or prevents the processes of digestion and assimilation until the starved brain and nerve cells utter their protest in various kinds of disease.

Wrong thinking, whatever its nature, leaves indelible scars on miud and body alike. It affects character and material prospects equally. Every time you grumble or find fault; every time you lose your temper; every time you do a mean, contemptible thing you suffer a loss which cannot be repaired. You lose a certain amount of power, of self-respect and of an uplifting and upbuilding character force. You are conscious of your loss, too, which tends to weaken you still further.

A business man will find that every time he gets out of sorts, flies into a rage or "goes all to pieces" when things go wrong he is not only seriously injuring his health, but is also crippling his business. He is making himself repellent; he is driving away success conditions.

A man who wants to do his best must keep himself in good mental trim. If he would achieve the highest success he must be a correct thinker. He cannot think discord and bring harmonious conditions into his business. His wrong thought will honeycomb and undermine his prospects in life. — Orison Swett Marden.

Proper Care of Feet.

Au interesting commentary on modern civilization is to be found in a treatise on the human foot and its clothing by Charles O. Kahler of New York, surgeou - chiropodist, eutitled "Our Feet." The illustrations of diseased and deformed feet in this little volume are so revolting that it is scarcely possible to look at them. Yet many American women with beautiful hands and forms and faces of almost perfect contour have feet quite as badly deformed as the various cuts represent, says the author.

These shocking results are attributed to the baleful effects of fashion, the ignorance of boot and shoe makers regarding the anatomy of the foot and a general lack of knowledge as to the proper care of this much-abused member, which "is so delicate and sensitive that even short and badly shaped stockings have been known to throw its joints out."

As to the iniquity of crowding five toes into a space that is only sufficient for two, it is scarcely worth while to repeat Dr. Kahler's remarks, for everything possible has been said on that subject already, without effect. But some of his other observations on the care of the feet may be of interest.

The fit of stockings is almost as important as that of shoes, he says, and in order that they may fit it is necessary that they shall have a right and left to the pair. Such stockings wear longer than the ordinary variety, because there is less strain on them. They should have as few seams as possible, as these cause corns, and a stocking that is too short is just as injurious as a shoe that has the same fault. Colored stockings are a source of danger to thiu and sensitive skins, but stockings with white feet are just as good as those that are entirely white.

The feet should be bathed at night, and by removing aches and weariness this treatment is an excellent sleep producer. The water should be salted, allowing a quart of brine to a quart of water, and may be hot or cold, according to individual constitution. The feet should be scrubbed all over with a nail brush, which will often prevent the formation of corns, and callosities on the soles may be reduced with a piece of fine emery paper or a fine file before the feet are placed in water. The brine may be made by dissolving a pint of sea salt in two quarts of water, pouring it into a covered jar or bottle, and allowing it to stand for twenty-four hours. As the brine is used the bottle may be filled with clear water, repeating the process till all the salt is gone.

The feet of children should receive the most careful attention, for ueglect at that time may lay the foundation for many future ills. Since the feet of a child are in process of development, the bones and ligaments are soft and pliable, and will conform to a bad as well as to a properly shaped shoe. Hence shoes of a sufficient length and breadth, with snug heels and close-fitting instep, can alone make it possible for a child to grow up with perfect feet. Children, if sent to a reliable surgeou-chiropodist at regular intervals to have their feet examined and the toenails cut, will avoid many if not all the ailments due to ill-fitting shoes and stockings, as he can tell at a glance when anything is the matter and prevent any further progress of the trouble. Even adults will find their feet greatly benefited by following this advice, and before many years have passed the public may regard the chiropodist as necessary to their well being as the dentist or physiciau.

Just Try Running.

To take a mile run daily, as a man in training would do it, is the best way in the world for a girl to get color into her cheeks and sparkle into her eyes.

"If girls would turn their attention to running, they would find it the most

exhilarating pastime in the world, as well as one of the most healthful," says an authority in athletics. "Besides adding roses to the cheeks and inches to the lungs, running is the stout woman's best resource.

"Let her take a brisk run daily, beginning with a few yards and getting up to a mile or thereabouts and she will not need to resort to a diet—that most melancholy and depressing method of reducing avoirdupois."

If a run cannot be taken daily out of doors, the running track found at every well-equipped gymnasium should be utilized. A run out of doors, however, is the ideal practice, for fresh air is one of the important factors of the sport. It is fresh air that gives a girl bewitching color in her cheeks and purifies every drop of blood in her body.

After a little practice a girl can run half a mile without stopping. Then let her pause for a two-minute rest before doing the next half mile. Run briskly, but not at top speed.

Without question, one of the best exercises in the world for girls is running. It contributes for one thing that elasticity without which grace is impossible, and spurs every bodily function to its appropiate duty.

Other things beings equal, the girl who knows how to run, and does run, will outclass in general attractiveness the girl who does not. She will carry herself more gracefully. Her pose will be easy; she will be better set up, and generally better able to take care of herself in society or out of it.—New York Sun.

Mystery Surrounds Act of Sleeping.

Sleep, with its strange phenomena, remains, after the passage of thousands of years, as much a mystery as it was in the beginning of the race.

Whence it came? How produced? We as little know the answer to these questions as Adam when the deep slumber fell upon him in the garden.

The craving of the body for sleep is as imperative as its cry for food. This blessed loss of consciousness is the best general medicine known. There is neither substitute nor rival for it.

Sleep is the off-duty period of consciousness. It is during this time, when the entire system is in a quiescent state, that the final processes of assimilation take place and that the body is really nourished.

This assimilation is said to go on much better and more rapidly before midnight than afterwards, because of the more thorough circulation of the blood, which carries the new material and removes the waste.

Oxygen, too, is consumed in greater quantities before midnight than after it, according to the scientists, and oxygen is necessary to this nutritive process.

The heart decreases in force from midnight until after sunrise the following day, and nightmare, dreams, convulsions, relapse—even death—occur more frequently after this hour.

Those who burn the midnight oil should make a note of the fact that there are good physiological arguments in favor of the "early to bed" advice.

One excellent reason why early sleep is preferable to late is that the cells of the brain and other nerve centers can recuperate more quickly before reaching a point of strain or exhaustion than they can afterwards do.

It should be remembered that the nutrition of the body goes on very slowly unless plenty of oxygen is consumed at the same time.

As the consumption of oxygen is less during sleep than in working hours, there is the greatest necessity for plenty of pure air in every sleeping room.

The intimate connection of sleep and bodily nourishment is strangely illustrated in the hideous "six-day races" and similar feats.

The men engaged in these eat tremendous quantities of food, five times what the ordinary workmen can possibly consume in a like number of hours.

Yet the end of the tests finds them frightfully emaciated, with vitality spent.

Physicians explain this as a result of the lack of sleep, which has made it impossible for the digestive system to transform the food into tissue.

Sleep is a life-giver as well as a life-saver.

The coming of natural slumber is gradual. The general repose would seem to be made up of many little sleeps, which are premonitions of nature's approaching control of the body. These little sleeps take each sense separately and obscure it.

They take the physical organs one by one and shroud them slowly till all are quiescent.

Of the five guardian senses that protect us from danger while awake, the eyes are the most important.

But normal sleep comes with darkness; sight is useless in the dark; therefore, in sleeping the eyes close first of all.

Next after sight, taste is lost; then the sense of smell. When "half sleep" one's sight, taste and smell are gone. Hearing is next to succumb, the sense of touch deserting last of all.

The same slow approach of sleep is noticed in the muscles and sinews. Drowsiness begins at the feet and spreads slowly upwards until the brain is reached.

In waking the process is the same, but it is reversed.

The quickest way to arouse a sleeper is to touch him. The next best is shouting. Taste remains last of all.

Specialists say that never before was there a time when such long and profound sleep was needed as now by the average man and woman.

Our tense and noisy living requires it in generous quantities to repair the daily ravages.

They add with truth that there has never been a time when civilized man was so little able to sleep as he now is, thanks to the very conditions which make repose so necessary.

A man can go forty days without solid food and survive.

He can exist seven days, sometimes longer, without food and water.

He can drag through seven days, at most, without sleep.—Boston Post.

Domestic Hints.

Virginia Corn Muffins. — Three eggs. well beaten; two heaping cups Indian cornmeal and one of flour; sift into the flour two teaspoonfuls baking powder; add one tablespoonful melted lard, three cups sweet milk, one teaspoonful salt; beat well; bake quickly in rings or small patty pans; serve hot.

Almond Custard.—One pint of milk, one-fourth cupful of sugar, one-fourth pound of almonds, blanched and pounded fine, two eggs and two teaspoonfuls of rose water. Stir over the fire till thick as cream, then set in oven till firm. Just before serving cover with whipped cream, tinted delicately with strawberry syrup or red currant jelly.

Lemon Snaps.—One pound of flour, half a pound of butter, one dessertspoonful of allspice, two of ground ginger, the grated peel of half and the juice of a large lemon. Mix all well together, add a cup of molasses, beat it well, pour it on buttered sheet tins and spread it thinly over them. Bake in a rather slow oven. When done cut it into squares, and roll each square around the finger as it is raised from the tin. These are quite as delicious as the best brandy snaps sold by confectioners.

Beef Roll. — Two pounds round steak, chopped fine; two well-beaten eggs, one-half teacupful rolled crackers, one-half cup warm butter, one-half cup sweet milk, one small onion and a little sage; season with salt and pepper, mix all together with a stiff spoon. Put in a deep, square bread tin and bake one hour in a hot oven. Baste quite often after it begins to brown. The onion or sage can be omitted if not liked, and any kind of other flavoring for meats added. This is very nice hot for dinner or sliced cold for lunch.

Banana Shortcake.—Make a rich tea-biscuit crust, bake in jelly cake tins in not too thick layers. When done split open with forks and butter while hot, three layers being enough for one cake. The two bottom layers and one top make the best shape. Take about three good sized, thoroughly ripe bananas and shred finely with a fork. Spread a layer of the fruit on the crust, adding the least bit of salt, and sprinkle well with powdered sugar. Add the next layer in the same way. On the last one spread fruit very thickly, well mixed with sugar, so as to form a sort of icing. Serve with soft custard flavored with vanilla.

Hints to Housekeepers.

To prevent articles of silverware from tarnishing, warm them when well cleaned and paint them over with a thin solution of collodion in alcohol, using a wide, soft brush for the purpose. Articles so treated must be wiped only with dry cloths.

A domestic magazine advises that the baking of a cake should be divided into four equal parts. This necessitates looking at the cake only four times. At the end of the first quarter the cake should be somewhat risen, with bubbles on the top. The second quarter finds it well risen and beginning to brown. At the end of the third it is "set," and evenly, but lightly browned. At the last look the cake should be ready to take out.

In making lemonade, increased richness and flavor may be obtained by stirring granulated sugar into the lemon juice until a thick syrup is formed about two hours in advance of one's need. This should be placed in a refrigerator until wanted, when shaved ice is to be added and the stirring resumed. Just before serving pour in water, still stirring while letting the water drip in slowly from a funnel.

It may shock tidy housekeepers to hear it, but the poor coffee one gets in the average household is due largely to the washing of the pot. It is plunged in with other pots, in all but exceptional cases, and washed with the common dishcloth. "A coffee pot," says a cook where coffee is famous, "should never be washed. It should be filled with cold water and left to stand for a few moments after using. Then it should be brushed out carefully with a long-handled brush, scalded with hot water and left to dry with the lid open till it is to be used again. Coffee made carefully in a pot so treated becomes a nectar fit for the gods."

Every housewife in whose home lamps are used realizes the annoyance that comes of less brilliant light than is given by the new burner. What is not generally understood is that the difficulty arises from dust which settles in the tiny apertures and prevents the free passage of air. If the burners are unscrewed from the lamps occasionally, freed of their wicks and boiled in a solution of washing soda and water, they will come forth brilliantly clean and the light will be once more all that can be desired. Wicks, too, should be more often renewed than is commonly the case, as they are apt to absorb the oil less readily after prolonged usage. Often the simple plan for boiling the burner and fitting it with new wicks will mean all the difference between the discomfort of the dim, uncertain light and the gratification that comes of a clear and bright one.

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DIVIDEND NOTICE

California Safe Deposit and Trust Company
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For the six months ending June 30, 1904, dividends have been declared on deposits in the savings department of this company, as follows: On term deposits at the rate of 3 6-10 per cent per annum, and on ordinary deposits at the rate of 3 per cent per annum, free of taxes, and payable on and after Friday, July 1, 1904.
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The Markets.

San Francisco Produce Report.

San Francisco, July 6, 1904.

CHICAGO WHEAT FUTURES.

Wheat futures in Chicago were as follows for the week named, price being for No. 2 Red per bushel:

	July.	Sept.
Wednesday	84½@ 85⅝	80⅜@81½
Tbursday	84⅜@ 85⅝	80¾@81⅜
Friday	86 @ 85⅛	81¼@81
*Saturday	—@—	—@—
*Monday	—@—	—@—
Tuesday	85¾@ 87⅞	81¾@83⅛

CHICAGO CORN FUTURES.

Prices of futures on No. 2 corn per bushel in Chicago were as follows for the week:

	July.	Sept.
Wednesday	47⅜@48	48⅛@48¾
Tbursday	47¾@47⅛	48¾@48⅛
Friday	47¾@47	48¾@48⅛
*Saturday	—@—	—@—
*Monday	—@—	—@—
Tuesday	47⅛@48¼	48⅝@49¼

SAN FRANCISCO WHEAT FUTURES.

The range of values in San Francisco for No. 1 White wheat per cental was as follows:

	Dec., 1904.	May, 1905.
Tbursday	$1 27¾@1 28	$—@—
Friday	1 27⅞@1 27¾	—@—
*Saturday	—@—	—@—
*Monday	—@—	—@—
Tuesday	1 28½@1 29	—@—
Wednesday	1 29⅛@1 29¼	—@—

*Holiday.

Wheat.

About half the week has been devoted to holiday observances, there having been an adjournment of the Grain Exchange from Friday noon until Tuesday morning. During the balance of the week there was little done in wheat. There is no tonnage in port at present engaged for wheat loading. Of the two ships now on the engaged list one is for new crop barley, chartered prior arrival at 15s 6d to Cork for orders. The other, a British bark of 1470 tons register, represents a spot charter at 22s 6d for miscellaneous cargo to Liverpool or London direct. The Ship Owners' Union, recently formed, is contending for 22s 6d on wheat cargoes to Europe and 23s 9d for barley cargoes. That these rates will be maintained is very douhtful. While the supply of tonnage is less than at beginning of last season, there is more than enough in sight for all probahle requirements, the aggregate amount here and now headed this way representing a carrying capacity of nearly 600,000 tons of wheat. Last season's shipment of wheat from this port were only 54,118 tons, and of harley 213,833 tons, making a total of 267,957 tons. The amount of California wheat and barley available for shipment this season is likely to be less than last season. The supply of ocean tonnage is apt to show further increase, although there are more ships now in sight than freight can be secured for at any figure. Not much wheat offering here, and with demand slow, values are not very clearly defined. Eastern aud foreign markets were without radical change, although the general tendency at close was to higher figures. Shipments from Argentina are showing marked decrease.

California Milling	$1 35 @1 50
Cal. No. 1 shipping, alongside	1 27½@1 30
Oregon Club	1 27½@1 32½

PRICES OF FUTURES.

During past week tbe range on options was:
December, 1904, delivery, $1.27¾@1.29¼.
May, 1905, delivery, $—@—.
Wednesday, at the forenoon session of Exchange, December, 1904, wheat sold at $1.29⅛@1.29¼; May, 1905, $—@—.

Ocean freights and prices for wheat, as compared with a year ago, are as follows:

	1903-04.	1904-05.
Liv. quotations	6s9d@6s9½d	-s-d@-s-d
Freight rates	17½@18¾s	17¼@—s
Local market	$1 30 @1 32½	$1 27½@1 32½

LOCAL STOCKS OF GRAIN.

Stocks of grain in near-by warehouses on June 1 and July 1:

Tons.	June 1.	July 1.
Wheat	32,549	*25,523
Barley	11,121	†6,662
Oats	1,820	790
Corn	200	429

*Including 9,800 tons at Port Costa, 13,383 tons at Stockton.
†Including 1833 tons at Port Costa, 2605 tons at Stockton.

Stocks of wheat in near-by warehouses on the 1st inst. show an decrease of 7026 tons for the month of June. A year ago there were 17,804 tons of wheat in near-by warehouses.

Flour.

Business is of light volume and at quotably unchanged values. Supplies in this center are not particularly heavy, but are sufficient to accommodate a greater demand than exists at present. Much of the flour here is the product of mills in Northern and Eastern States and Territories.

Superfine, lower grades	$3 15 @3 25
Superfine, good to choice	3 25 @3 50
Country grades, extras	4 00 @4 30
Choice and extra choice	4 30 @4 60
Fancy brands, jobbing	4 50 @4 80
Oregon, Bakers' extra	3 50 @4 00
Washington, Bakers' extra	3 50 @4 15

Barley.

The spot market is not showing much activity, hut the general tendency is to firmness, especially on bright and clean barley of good weight, suitable for export. This sort is not going to he plentiful, and will probably he largely bought up in the interior at better figures than shippers will care to quote here. That Europe will want more high grade barley from this State than can be furnished this season is very likely, and prospects for a good market for desirahle shipping grades could not well be better at this date. Buyers are doing all in their power to make the market appear weak.

Feed, No. 1 to choice new	$ 95 @ 97½
Feed, fair to good	92½@ 95
Brewing, No. 1 to choice new	1 00 @1 05
Chevaller, No. 1 to choice	1 05 @1 12½
Chevalier, common to fair	97½@1 02½

Oats.

Not many new oats are arriving, and stocks of old have beeu reduced to comparatively small proportions. The quantity in city warehouses on 1st inst. was reported at only 790 tons, as against 2,671 tons at corresponding date last year. Market for all desirable qualities is at present tolerably firm at prevailing values.

White oats, fancy feed	$1 32½@1 35
White, good to choice	1 30 @1 32½
White, poor to fair	1 15 @1 20
Milling	1 25 @1 32½
Black oats	1 12½@1 22½
New, Red, fair to choice	1 10 @1 20

Corn.

Stocks of Eastern are of fair proportions, as compared with the demand, which is not brisk at full current figures. California corn is in very light supply, especially Small Yellow.

Large White, good to choice	$1 42½@1 47½
Large Yellow	1 42½@1 47½
Small Yellow	1 55 @1 60
Egyptian White	1 27½@1 32½
Egyptian Brown	1 22½@1 27½
Eastern, in bulk	1 35 @1 40

Rye.

While inquiry is not very brisk, there is no special selling pressure, and current values are being well maintained.

Good to choice	$1 30 @1 35

Buckwheat.

No California buckwheat offering, and prices East are too high to admit of importing.

Beans.

Values remain at much the same range as last noted, the market presenting a generally healthy tone, with offerings of rather light volume, especially of other than Large Whites, and this variety is not being crowded to sale to any noteworthy extent. Limas are in moderate supply at Southern producing points, but are being very steadily held. Stocks of beans in San Francisco warehouses and on wharves on 1st inst. were 73,717 sacks, as against 82,931 sacks on June 1st.

Pea, fair to good, 100 lbs	$2 90 @3 15
Small White, good to choice	2 90 @3 15
Large White	2 30 @2 55
Pinks	3 40 @3 55
Bayos, good to choice	2 40 @2 60
Red Kidneys	4 50 @5 00
Reds	4 25 @4 75
Limas, good to choice	3 35 @3 40
Black-eye Beans	2 00 @2 15

Dried Peas.

Market is very lightly stocked and for desirable qualities is decidedly firm.

Green Peas, California	3 00 @—
Niles Peas	2 75 @—
Garbanzos, large	2 75 @3 00
Garbanzos, Small	2 25 @2 50

Hops.

No evidence of anything of consequence doing in the hop market, either in the way of transfers of spot stock or contracting for new crop. New to arrive are quoted at 16@18c., but it would have to be a very desirahle growth for which top figure could be secured in a wholesale way at this date. Should the crop outlook in this country or Europe prove less promising later on, buyers may be eager to secure this season's hops at above or even hetter prices. At present most dealers and large consumers are disposed to await developments.

California, good to choice, 1903 crop	24 @27

Wool.

There is little opportunity here for business in the way of transfers from first hands, most of the wools now held in this center representing purchases made in the interior. The same firm tone previously noted continues to prevail, and as the Fall season is approaching, it will soon be in order for dealers to float some bearish statement, with a view of securing the coming clip at as low figures as possible.

SPRING.

Nortbern, free	20 @22
Nortbern, defective	15 @18
Middle Counties, free	15 @18
Middle Counties, defective	12 @15
Southern, 12 months	10 @12
Soutbern, 7 months	9 @11
Spring Lamb, Northern	14 @16
Spring Lamb, Southern	10 @13
Oregon, good to choice	18 @21
Nevada	14 @19

Hay and Straw.

The season for new hay has fairly opened, hut trade is far from brisk and market is lacking in firmness. Dealers are closing out some old hay at a loss, and hope to he able to make up on new crop by keeping opening values at low levels. Straw is commanding tolerably stiff prices, supplies being hardly equal to the demand.

Wheat, good to choice	$10 00 @ 12 00
Wheat and Oat	10 00 @ 11 50
Tame Oat, fair to choice	8 50 @ 11 00
Wild Oat	7 00 @ 8 50
Barley	7 00 @ 9 00
Alfalfa	7 00 @ 9 00
Compressed	10 00 @ 12 50
Straw, ₱ bale	70 @ 85

Millstuffs.

There were 432 tons Bran in city warehouses on 1st inst., as against 200 tons a month ago. Supplies are mostly in few hands, however, and are being rather steadily held. Middlings are not in heavy stock, hut are moving slowly at figures asked. Prices for Rolled Barley and Milled Corn have not changed materially since last report.

Bran, ₱ ton	$21 00 @ 22 00
Middlings	25 00 @ 28 00
Sborts, Oregon	21 50 @ 22 50
Barley, Rolled	21 50 @ 22 50
Cornmeal	31 00 @ 31 50
Cracked Corn	31 50 @ 32 00

Seeds.

Alfalfa is hardly quotable, stocks heing very light and scarcely any inquiry from buyers at present. Values for Flaxseed are ruling steady; recent arrivals have been small. Yellow is the only Mustard now on market and this is held mostly at producing points. Values for Bird Seeds are heing maintained as last quoted, with the exception of Canary, which is higher, and supplies only moderate.

	Per ctl.
Alfalfa, Cal., good to choice	$14 00 @16 00
Flax	1 80 @ 2 00
Mustard, Yellow	2 75 @ 3 25
Mustard, Trieste	3 75 @ 4 25
	Per lb.
Canary	6½@—
Rape	1¾@ 2¼
Hemp	3½@—
Timothy	5 @ 5½

Honey.

New crop is on market in moderate quantities, mostly from the Sacramento and San Joaquin valleys. In a small way slightly higher figures than are warranted as wholesale quotations are being realized. Offering of new up to date have been mainly amber grades.

Extracted, White Liquid	5½@ 6
Extracted, Light Amber	5 @ 5½
Extracted, Amber	4 @ 4½
Extracted, Dark Amber	3½@ 3¾
White Comb, 1-frames	12½@ 13
Amber Comb	9 @11

Beeswax.

Market is lightly stocked and firm. There is no trouble in securing buyers at full current values.

Good to choice, light ₱ lb	28 @30
Dark	26 @27½

Live Stock and Meats.

Demand for Beef is up to the average for this time of year and prices are steady. Stocks are of fair proportions and sufficient for current needs. Veal is in light receipt and choice meets with ready custom at full figures. Market for Mutton continues firm, supplies being of rather small volume. Lamb is arriving very sparingly and desirable offerings are bringing good figures. Hogs are selling at much the same prices as last quoted; there are no heavy receipts, neither is the demand very active.

Allowing for tbe shrinkage of about 50%, which is exacted in buying cattle on tbe hoof, live cattle command as much or more per pound than dressed beef, tbe shrinkage exacted being the slaugbterers' profit.

The following quotations for beef and mutton are based on prices realized by slaughterers from wholesale dealers:

Beef, 1st quality, dressed, net ₱ lb	6½@—
Beef, 2nd quality	5½@—
Beef, 3rd quality	4 @ 5
Mutton—ewes, 7@—c; wetbers	8 @—
Hogs, bard grain, 140 to 200 lbs	4¾@—
Hogs, large, bard, over 200 pounds	4¼@ 4½
Hogs, small, fat	4½@—
Veal, large, ₱ lb	7 @ 8
Veal, small, ₱ lb	8 @ 9
Lamb, spring, ₱ lb	9 @10

Hides, Skins and Tallow.

Market for Hides and Pelts is steady at prices quoted, there being no lack of demand at current figures for good to choice stock. Tallow is in fair request at quotably unchanged values.

Notbing but select hides, clean and trimmed will bring full figures. Culls of all kinds, either from grubs, cuts, hair slips, side brands or murrain, are not always readily placed at the lower figures.

	Sound.	Culls.
Heavy Steers, over 56 lbs	— @ 9½	— @ 8
Medium Steers, 48 to 56 lbs	— @ 9	— @ 8
Light Steers, under 48 lbs	— @ 8½	— @ 7½
Heavy Cow Hides, over 50 lbs	— @ 8	— @ 7
Light Cow Hides, under 50 lbs	— @ 8½	— @ 7½
Stags	— @ 6	— @ 5
Wet Salted Kip	— @ 9	— @ 8
Wet Salted Veal	— @10	— @ 9
Wet Salted Calf	— @11	— @10
Dry Hides	— @16	— @15
Dry Kip and Veal, 11 to 16 lbs	— @18	— @12
Dry Calf, under 4 lbs	— @18	— @16
Pelts, long wool, ₱ skin		1 00@1 50
Pelts, medium, ₱ skin		70@ 90
Pelts, short wool, ₱ skin		40@ 50
Pelts, shearling, ₱ skin		15@ 30
Horse Hides, salted, large prime, each		2 75@—
Horse Hides, salted, medium		2 25@2 50
Horse Hides, salted, small		1 25@—
Horse Hides, dry, large		1 75@—
Horse Hides, dry, medium		1 25@—
Horse Hides, dry, small		1 00@—
Tallow, good quality		4 @4½
Tallow, poorer grades		2½@3½

Bags and Bagging.

Dealers are reporting a firmer Grain Bag market, but the development of any special firmness will be the result of leading holders combiniug, and not on account of any scarcity of bags. Prices are low, as compared with presenc cost of importing.

Bean Bags	$ 4¾@5
Fruit Sacks, cotton	6¾@6¾
Fruit Sacks, jute, as to quality	5¾@7
Grain Bags, Calcutta, 22x36, spot	5½@5¾
Grain Bags, San Quentin, ₱ 100	5 40 @—
Wool Sacks, 4-lb	32 @—
Wool Sacks, 3½-lb	30 @—

Poultry.

Only for choice young stock, full grown or nearly so, did the market display any noteworthy firmness. The most urgent inquiry was for choice Young Roosters and fine Fryers. Largo and fat Hens brought tolerably good figures. Common Heus were carried over in considerable quantity from previous week, and where sales of this stock were effected low prices had to be accepted. There was very little demaud for Turkeys, and few offering. Ducks and Geese had to be of good size and in fine condition to sell to advantage. Prices for old Pigeons remained fairly steady, with inquiry only moderate: Young Pigeons sold at a decline.

Turkeys, young gobblers, ₱ lb	$ 14 @ 15
Turkeys, young hens ₱ lb	14 @ 15
Hens, California, ₱ dozen	4 00 @ 4 50
Hens, large	4 50 @ 5 00
Roosters, old	4 00 @ 4 50
Roosters, young (full-grown)	7 50 @ 8 50
Fryers	5 00 @ 5 50
Broilers, large	3 00 @ 4 00
Broilers, small to medium	2 50 @ 3 00
Ducks, old, ₱ dozen	3 50 @ 4 50
Ducks, young, ₱ dozen	4 00 @ 4 50
Geese, ₱ pair	1 25 @ 1 50
Goslings, ₱ pair	1 25 @ 1 50
Pigeons, old, ₱ dozen	1 50 @ ——
Pigeons, young	1 25 @ 1 50

Butter.

Values for butter were maintained at a little higher range than preceding week, but only for the most favorite brands showing superior quality could the market be said to show firmness. Medium and common grades were in more thau ample supply for the demand.

Creamery, extras, ₱ lb	21 @22
Creamery, firsts	20 @21
Creamery, seconds	19 @20
Dairy, select	20 @21
Dairy, firsts	19 @20
Dairy, seconds	17½@18¼
Cold storage	—@—
Mixed Store	13½@14

Cheese.

Flats are in fairly liberal stock, hut offerings do uot include much choice to select mild-flavored new. Young Americas continued to command in a small way tolerably stiff figures.

California, fancy flat, new	8¼@ 9
California, good to choice old	8 @ 8¼
California, fair to good	7¼@ 8
California, "Young Americas"	9½@10¼
Eastern	10 @13

Eggs.

Most of the eggs now arriving are of rather ordinary quality, and for the general run of offerings the market lacks firmness. Some strictly select fresh are commanding above quotations. Eastern eggs are in fair supply and are selling in the main at lower figures than corresponding qualities of California product.

California, select, large, white and fresh	23 @24
California, select, irregular color & size	21 @22
California, good to choice store	19 @20
Eastern firsts	18 @20
Eastern seconds	15 @17

Vegetables.

There were no pronounced changes in quotable values for vegetables of any description now coming forward in quotable quantity, hut such changes as were effected were principally to easier figures. Very little Asparagus arriving. String Beans and Green Corn were in increased receipt, and where not strictly choice met with a weak market. Tomatoes were in better supply than previous week and market was less favorable to sellers. Summer Squash and Cucumbers sold at lower average figures than last quoted. Onions were in fair supply and market inclined in favor of the buying interest.

Asparagus, ₱ lb	4 @ 6½
Beans, String, ₱ lb	2 @ 4
Beans, Wax, ₱ lb	2 @ 4
Cabbage, choice garden, ₱ 100 lbs	1 00 @ 1 25
Corn, Green, ₱ crate	1 00 @ 1 50
Cucumbers, ₱ large box	50 @ 75
Egg Plant, ₱ lb	5 @ 8
Garlic, new, ₱ lb	3 @ 4½
Onions, Cal. Red, ₱ sack	90 @ 1 00
Onions, Yellow Danver, ₱ ctl	1 25 @ 1 50
Peas, sweet garden, ₱ lb	3½@ 5
Peppers, Green Cbile, ₱ lb	8 @ 10
Rhubarb, ₱ box	40 @ 75
Summer Squash, ₱ small box	35 @ 50
Summer Squasb, Bay, ₱ large box	50 @ 1 00
Tomatoes, ₱ crate	1 00 @ 1 50
Tomatoes, River, large box	2 00 @ 2 50

NOTE.—Large boxes are what are known to tbe trade as "pay boxes," which have to be returned

or paid for. They are open top, with hand holes in the ends, and weigh when filled from 50@60 lbs gross. Small boxes are free boxes, about the same as the regular fruit box, weighing when full from 20 to 30 lbs. gross.

Potatoes.

Receipts of new potatoes showed increase, and market was not so firm as previous week, although choice to select continued to bring comparatively good figures. Some from Sacramento River section are quite ordinary in quality. Salinas Burbanks are now arriving in quotable quantity. Old Oregon Burbanks are still coming forward, but demand for them is very limited.

Sacramento River Burbanks	75	@	1 00
Oregon Burbanks	90	@	1 25
New Salinas Burbanks, ₱ cental	1 75	@	2 15
New Potatoes white, ₱ cental	1 65	@	2 10
New Early Rose, ₱ cental	1 65	@	1 90
New Garnet Chile	1 65	@	1 80

Fresh Fruits.

Apricots are selling at a wide range, owing to a great difference in quality of offerings. Choice to select are more readily placed at extreme quotations than are very common qualities at inside figures. Some recent arrivals of Peaches are showing decidedly improved quality, and better prices are being realized, demand being good for desirable stock. Bartlett Pears are coming forward, but are mostly too green to be desirable. Apples of fine quality were in fair request at moderately firm figures, but there were few of this sort offering. Plums were in increased supply, but stocks of choice large were not heavy and such brought tolerably good prices. Figs were plentiful and only a few favorite brands brought forth any special competition from buyers. Black Grapes are arriving, but in the main are hardly ripe enough to be eagerly sought after. Cantaloupes and Watermelons did not sell very rapidly. Nutmeg Melons are arriving from Sacramento River. Choice Raspberries were in light receipt, as were also Currants. Most Berries in season were in liberal supply and prices were without special change.

Apples, Green, ₱ 50-box	50	@	90
Apples, good to choice, 50-lb. bx	1 00	@	1 25
Apricots, ₱ crate	40	@	85
Apricots, ₱ ton	20 00	@	40 00
Blackberries, ₱ chest	3 00	@	4 50
Cantaloupes, & crate	1 25	@	2 00
Currants, ₱ chest	5 00	@	8 00
Figs, 1-layer box, 25@40; 2-layer	50	@	75
Grapes, Seedless, ₱ crate	1 00	@	1 25
Loganberries, ₱ chest	2 00	@	3 50
Nutmeg Melons, ₱ box	1 00	@	1 50
Peaches, ₱ large box	85	@	1 25
Peaches, ₱ box	40	@	75
Pears, Bartlett, ₱ 40-lb box	1 25	@	1 50
Pears, Dearborn Seedl'g, small bx	50	@	65
Plums, Clyman, ₱ box	40	@	75
Plums, Simoni, ₱ box	75	@	90
Prunes, Tragedy, ₱ box	75	@	90
Raspberries, ₱ chest	4 00	@	7 00
Strawberries, Longworth, ₱ chest	3 00	@	5 00
Strawberries, large, ₱ chest	2 50	@	4 00
Watermelons, ₱ lb	1½	@	—

Dried Fruits.

Interest is now mainly in new crop, and there is considerable business reported in the same, largely of a speculative character, of course, as the curing season has not yet opened on any other fruit but Apricots, and only in the earliest sections is the curing of this fruit under full headway. That there will be any glut of desirable qualities of Apricots this season is wholly improbable, the market being now decidedly firm in tone, with every prospect of so continuing. New Apricots are quotable at 8@8½c for good to choice in boxes. Extra choice to fancy are expected to sell at a higher parity of values, as the proportion of strictly high-grade stock will likely be very light this season. In speculative transactions in futures, Peaches, Pears and Prunes are all coming in for attention, with the bulk of trading in the first two varieties, and firmness most pronounced on Peaches, 5¾c being about the lowest figure dealers are willing to accept on carload lots of fair average or standard quality in boxes. Contracts for Pears have been mainly within range of 6@8½c at producing points, inside figure for standard and top price for fancy in boxes. New Prunes have been sold for future delivery on the 2½c sack basis for the regular run, and at 2½c basis for large sizes, but only on domestic account and not in very heavy quantity. European buyers are not at present bidding over the 2c sack basis. Quotations below for last year's fruit are mainly nominal at this date. Apples are scarce and temporarily are commanding stiff prices.

EVAPORATED OR BLEACHED.

Apples, 50-lb hoxes, rings, pressed, good to choice	5½	@	6
Apples, extra choice to fancy, 50-lb hoxes	6½	@	7
Apricots, Moorpark	8	@	10
Apricots, Royal, good to choice, ₱ lb	7½	@	8
Apricots, Royal, fancy	8½	@	9
Figs, 10-lb box, 1-lb cartons	55	@	75
Peaches, unpeeled, choice	6	@	6½
Peaches, unpeeled, fancy	7	@	7½
Plums, Black, pitted	4½	@	5
Plums, Yellow, pitted	5	@	7
Prunes, Silver, good to fancy	2½	@	5
Prunes, in bags, 4 sizes, 2@2¼c; 40-50s, 3¾@4c; 50-60s, 3⅜@3½c; 60-70s, 2⅞@3c; 70-80s, 2⅜@2½c; 80-90s, 1⅞@2c; 90-100s, 1⅜@1½c; small, ¾@1c.			

COMMON SUN-DRIED.

Apples, sliced	3½	@	4½
Apples, quartered	3½	@	4½
Figs, White, in bulk	2½	@	3½
Figs, Black	3	@	4

Raisins.

There is little doing in spot stocks, which are mostly Loose Raisins, and no evidence of any speculating in futures. It is not likely there will be any special activity until the opening of the new season.

Following are current quotations for raisins as announced by the Growers' Association of Fresno for crop of 1903, f. o. b. at Fresno, subject to change without notice:

Standard Grades—	50-lb. cases, Per lb.
2-Crown Loose Muscatels	4 c
3-Crown Loose Muscatels	4¼c
4-Crown Loose Muscatels	—c
Seedless Loose Muscatels	3¼c
Seedless Floated	3½c
2-Crown Malaga Loose	3¾c
3-Crown Malaga Loose	4 c
Seedless Sultanas, Unbleached	3½c
Seedless Thompson's, Unbleached	—c

SEEDED.

Fancy 16-oz. Cartons, ₱ lb	5½c
Fancy 12-oz. Cartons, ₱ pkg	4½c
Fancy Bulk Cartons, ₱ lb	5¼c
Choice, 16-oz. Cartons, ₱ lb	5¼c
Choice, 12-oz. Cartons, ₱ pkg.	4¾c
Choice, Bulk Cartons, ₱ lb	5 c

Citrus Fruits.

There are few oranges now on market, and not much inquiry for this fruit, as is to be expected at this date. Choice Valencias are selling in a limited way to fair advantage. In Lemons there is a moderate business doing at generally unchanged values, with supplies of fairly liberal proportions. Limes are in ample stock for present needs and prices unchanged.

Oranges, Valencias, ₱ box	1 50	@	3 00
Lemons, California, select, ₱ box	2 50	@	—
Lemons, California, good to choice	1 75	@	2 25
Lemons, California, fair to good	1 25	@	1 75
Grape Fruit, ₱ box	1 25	@	2 50
Limes, Mexican, ₱ box	4 00	@	4 50

Nuts.

Market presents no new features. There are few Almonds offering and Walnuts are practically all gone. Prospects are that on both varieties good prices will rule for coming crop. Peanut market is steady, with stocks only moderate.

California Almonds, shelled	16	@	19
California Almonds, paper shell	11	@	12½
California Almonds, soft shell	9	@	11
California Almonds, hard shell	5	@	6
Peanuts, fair to prime	4½	@	5½

Wine.

The wholesale wine market is without appreciable change, dry wines of last vintage being quotable at 15@17c per gallon, San Francisco delivery, but the quality would have to be exceptionally fine to command extreme figure in a wholesale way. For sweet wines of 1903, growers are asking 30c per gallon at wineries. The steamer City of Panama, sailing on 2nd inst., carried 29,810 gallons wine, including 28,000 gallons for New York. Shipments to the Hawaiian Islands the past week by steam and sail aggregated 22,525 gallons and 11 cases. Receipts of wine at San Francisco last week were 472,740 gallons, and for preceding week were 284,700 gallons. Receipts of wine for month of June, 1904, were 1,432,453 gallons, and for June, 1903, were 1,121,898 gallons.

Produce Receipts.

Receipts and exports of leading cereals and other California products for the past week and for the season to date, as compared with the corresponding time the previous year, are as follows:

FOR THE WEEK.		Since July 1, 1903.	Same time last year.
Flour, ¼ sks	71 099	5,529,978	6,024,216
Wheat, ctls	39,907	2,523,544	6,087,063
Barley, ctls	107,724	5,582,228	4,976,216
Oats, ctls	7,619	873,456	774,401
Corn, ctls	1,673	183,966	148,310
Rye, ctls	1,702	62,496	185,650
Beans, sks	5,157	733,781	705,012
Potatoes, sks	17,279	1,356,892	1,320,600
Onions, sks	1,594	168,842	218,825
Hay, tons	3,401	177,120	167,044
Wool, bales	1,328	73,366	69,542
Hops, bales	100	31,507	15,332

EXPORTS BY SEA.

FOR THE WEEK.		Since July 1, 1903.	Same time last year.
Flour, ¼ sk	24,156	3,479,484	4,066,565
Wheat, ctls	17,842	1,082,369	5,267,616
Barley, ctls	62,762	4,276,673	3,536,564
Oats, ctls	290	25,356	40,137
Corn, ctls	300	20,411	50,905
Beans, sks	455	41,935	43,729
Hay, bales	3,058	234,345	217,811
Wool, lbs		3,047,075	1,334,009
Hops, lbs	5,598	599,505	436,507
Honey, cases	13	5,567	4,515
Potatoes, pkgs	2,617	116,054	104,532

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At present, goods destined for this region, populated with nearly 3,000,000, have to be received indirectly by way of Havre or Bordeaux or even Marseilles. This necessitates a long railway haul, which increases considerably the cost of the goods. In consequence, many American products which would become very popular at a low price are now considered as luxuries. Among these I would mention California fresh fruits, American canned fruits, and meats. Other merchandise, such as prunes, dried apples, pears, and apricots, would become more popular if sold at a low price.

New Patents.

DEWEY, STRONG & CO.'S SCIENTIFIC PRESS PATENT AGENCY, 330 Market St., S. F., has official reports of the following U. S. patents issued to Pacific coast inventors:

FOR WEEK ENDING JUNE 21, 1904.

763,141.—CHAIN BUCKET ELEVATOR—H. M. Barngrover, San Jose, Cal.
763,069.—GAS GENERATOR—F. H. Bates, S. F.
763,245.—BOLT HOLDER—Bebler & Anderson, Los Angeles, Cal.
763,249.—CANT HOOK—N. Blanchet, Pendleton, Or.
763,146.—STAMP TAPPET—Brown & Hayes, Bishop, Cal.
763,045.—PAPER HOLDER—K. Cooper, East Highlands, Cal.
763,162.—FEED VALVE—J. L. Curran, Rocklin, Cal.
763,267.—ARTIFICIAL FUEL—J. T. Davis, S. F.
763,271. — GARMENT SUPPORTER — F. Ferguson, Santa Rosa, Cal.
763,276.—HORSE DETACHER—J. P. Gardner, S. F.
762,995.—AIR BRAKE — Graham & Potts, Seattle, Wash.
763,187.—VALVE—Kellar & Thomason, Covina, Cal.
763,324.—CULTIVATOR — G. W. Roberts, Lemoore, Cal.
763,072.—ADJUSTABLE BIT—W. H. de Roseau, Clifton, Ariz.
762,948.—KINETOSCOPE, ETC.—F. Schaefer, Seattle, Wash.
763,336.—ROTARY ENGINE — J. W. Swanson, Ballard, Wash.
763,030.—MINING APPARATUS — C. H. Thompson, Los Angeles, Cal.
762,965.—EXPLOSIVE ENGINE — L. F. Washburne, S. F.
762,969.—OIL BURNER—E. N. White, Oakland, Cal.
763,135.—PAVEMENT MACHINE—G. R. Wilton, Los Angeles, Cal.

PATENTS
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San Francisco, Jan. 20, 1904.

To the legal profession of California:

I was a witness to the following: About two years ago Prof. Yost of Palo Alto who was in an extreme condition due to advanced Bright's Disease, came to my office. He was attended by his physician who was himself a victim of Diabetes. The object of the visit was to meet a prominent business man who had for months been investigating an alleged cure for Bright's Disease and Diabetes, and hear his verdict. He declared that the claims were fully proven and that the cure had been discovered. Both Prof. Yost and his physician at once adopted the treatment. Within six months both were so well along toward recovery that they considered themselves beyond danger and at this date neither Bright's Disease nor Diabetes hold any terrors for them, and the physician is successfully using the treatment in his practice.

Learning that my old law partner, Judge R. R. Bigelow, for many years Chief Justice of the State of Nevada, had Bright's Disease and that though he had had four or five of our best physicians, yet that he had had to give up practice and was in a serious condition, I lost no time in telling him of the above. It resulted in his complete recovery and he is again back to active practice. As to the curability of chronic Bright's Disease and Diabetes I have no more doubt about it than that I am living.

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THE VINEYARD.

The Grapes of South Africa.

To the Editor:—South Africa, unlike the United States, has no native species of wild grape. Along the borders of water courses may often be seen large, handsome creepers which at first sight would be taken for grape vines, resembling in their large, beautiful leaves and rampant growth some of the more luxuriant varieties of the Northern Fox grape of the Eastern States. These plants, though closely related to the true vines, do not bear grapes and belong the genus Cissus. The climate and soil of the Western Province of Cape Colony are, however, remarkably well suited to the growth of the European vines, and since their introduction, at the end of the seventeenth century, grapes have been grown and wine made with great success. The first to introduce grapes into the Colony seem to have been the Huguenots about 1685 and the varieties of grapes grown here at the present day are most of them those brought over at that time. It is very characteristic of the conservatism of the Dutch Colonists that it was not until very recently that any other varieties were introduced, and these are principally English hothouse varieties. Within the last five years the Government has introduced some of the best French wine grapes, but they have not yet been very generally distributed over the Colony.

Luckily the varieties brought over by the Huguenots were well suited to the country, or it may be that the varieties unsuited have gradually been climinated. However this may be, there are at present only about half a dozen varieties planted to any great extent. Most of the grapes grown are used for wine making. A few localities make a specialty of table grapes for the Johannisberg and Cape Town markets and there is a small export of grapes to London. Very few raisins are made at present as the climate of the principal grape growing districts is neither hot nor dry enough and there is to much liability to summer rains.

The principal wine grapes grown are Hermitage and Pontac for red wine and Green grape, Stein and White French for white. For table grapes the Red and White Hanepoot are the most widely planted and from the later are made the few raisins that the Colony produces.

The great bulk of the dry red wine of the Colony is made from the Hermitage grape which seems to be identical with a grape of southern France whose true name is Ulliade. It has been grown here for generations under the delusion that it was the same grape from which the famous "Ermitage" wine of France is made, and constant efforts were made to produce a wine from it resembling that type. The grape is, however, so very different in all its characteristics from the Petite Sirah, the true Hermitage grape, that these efforts naturally failed. The Sirah which is extensively grown in California and Australia has lately been introduced here by the Government, but its adaptability to the country is still uncertain. The Cape Hermitage is a grape which is well worth trying in California. It is a heavy, constant bearer with short pruning, and in Cape Colony produces a light neutral wine of good quality but without much character. Mixed with a little Cabernet Sauvignon it makes a remarkably fine table wine for such a heavy bearer. It resembles in the character of its wine the Aramon to some extent. but the grapes ripen earlier and the wine is of better quality. It is usual to gather it here with from 18% to 20% of sugar and even less, and yet the wine shows remarkable keeping qualities considering the primitive and careless methods used in making and keeping it. The Hermitage is also one of the favorite table grapes of the Cape, being recommended by its large size, symmetrical bunches and good flavor. It would be of little use in California for this purpose, however, being too much like the California Black Malvoisie in appearance and inferior to that variety in shipping qualities.

The Pontac is identical with the French Teinturier, which has been planted in California to a small extent, generally under the incorrect name of Pied de Perdrix. It is a small growing, light bearing vine, which requires long pruning. It is noticeable for the deep red color of the juice of the grapes and the deep red bronze of the leaves in the autumn. It is used here principally for sweet wine or port, but is not extensively planted. A little sweet wine is also made from a red Muscatelle or Frontignan, and within the last few years small vineyards have been planted with Alicante Bouschet, Jacquez (Lenoir) and Othello.

The most successful of the recent introductions of red wine grapes is that of the Cabernet Sauvignon, which seems better suited to the conditions here than to those of California. It is, however, even here, a rather shy bearer, and is only planted in small quantities by those who aim at quality and can afford to go the expense of trellising. On a two-wire trellis, some growers claim to obtain large and regular crops from the Cabernet.

Most of the white wine of the Colony is made from what is called here the Green grape. The wine is called Drackenstien and is often of very good quality, resembling a Grave or light Sauterne. Two varieties of the Green grape are recognized, the White and the Red, but in all the vineyards that I have had the opportunity of seeing there are two white grapes and one red, or rather light pink. The commonest of the white varieties is identical with the Semillon, the principal Sauterne grape. The other white grape is indistinguishable from this variety except by the fruit, which lacks the peculiar aroma of the Semillon. The pink grape seems to be simply a color variation of the latter white one. The Stein, which is the next most widely planted white wine grape, I have been unable to identify with any European variety. It is an excellent bearer and produces more sugar than the Green grape and is usually considered of better quality. It is extremely subject to attacks of oidium, requiring, in some localities, six or seven sulphurings during the season. This is doubtless the reason it has not been more extensively planted. In localities where it attains sufficient sugar it is often used for sherry making.

The only other white grape which is planted in large quantities is the White French, which is identical with the Palomino, a grape of the sherry districts of Spain. This grape has been extensively planted in California, usually under the name of the Napa Golden Chasselas (a complete misnomer), as it differs in almost all respects from the Chasselas tribe. This vine grows well and bears large crops here, but the climate is hardly warm enough to reach perfection in most localities. It rarely reaches more than 18% or 19% of sugar, and the wine made from it is usually labeled Hock.

Sweet wines are made from the small White Muscateller or Frontignan and from two other varieties of Frontignan, a pink and a red. These are small early grapes which attain a high percentage of sugar and make a wine similar to the French Lunel. A little wine is also made from the White Hanepoot.

A large quantity of brandy is made, almost uniformly of very bad quality. Wine is usually made here without the use of presses. The grapes are crushed by means of a "fouloir" or, in many cellars still, by the feet, and then placed in fermenting vats of about 1000 gallons' capacity. This is done with grapes both for red and for white wine. The only difference in treatment is that the red wine grapes are left on the skins for several days, and the white for two or three. The wine which runs out freely from the fermenting vats is used as wine. The remainder is thrown with the pomace into primitive stills and made into Cape brandy, which is usually called here "Dop." This "Dop" has given the viticultural products of the Cape a bad name and is known in the London market as Cape Smoke. Most of it is consumed in the country, to a great extent by the blacks.

Table grapes of fine appearance and excellent quality are raised in the Western Province, chiefly of the varieties White and Red Hanepoot. The former is identical with the Raisin Muscat or Muscat of Alexandria of California and grows here to great perfection. The Red Hanepoot is a grape well worthy of trial in California. It seems to be simply a color variation of the Muscat of Alexandria but is, if anything, a little larger. It is very striking in appearance, being almost as vivid in color as a good sample of Flame Tokay. It is the table grape which takes best in the London market and shipments are said to have been made to New York with success, which says a great deal for its keeping qualities. Mr. Fairchild, an agricultural explorer from the Washington Department of Agriculture, who has recently been to the Cape, has sent some rooted plants to the United States for testing and distribution. It should be a valuable acquisition for those parts of California where they can raise good Muscats but cannot produce properly colored Tokay. The other table grapes grown here are not very promising for introduction into California. The Rasin Blanc is very similar to, if not identical with, the Napoleon or Verdal. The Crystal is a large white grape of very fine appearance but flavorless and a poor shipper. The Barbarossa, wrongly named, is a large, coarse, late red grape, which could not compete with the Black Morocco.

California has nothing to fear from competition with the Cape, either in the matter of table grapes or of raisins, but if well made Cape wines ever come in competition with California wines, the Californians will have to look to their laurels.

Frederic T. Bioletti.

Elsenburg School of Agriculture, Cape Colony.

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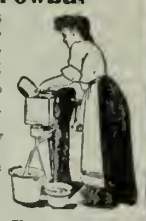
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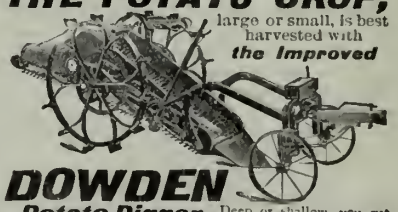
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THE STABLE.

Programme for Exhibition of Horses.

The programme for the exhibition of horse, mules and asses at the World's Fair has been arranged by Colonel Mills, chief of the Department of Live Stock, so as to give the judges ample time for deliberate and thorough examination of the incomparable exhibit that will be assembled at the Universal Exhibition of 1904.

The judging of horses, etc., will commence with the single animals of each breed and be followed by the exhibition of the breeding studs, and later the champion and grand champion stallions and mares, and the final climax will be the award of the premier championship honors to the breeder and exhibitor making the best records for their studs in the forum of the Universal Exposition of 1904.

The great extent and excellence of the exhibits of horses, etc., assured, the Universal Exhibition will most creditably represent the best specimens of the leading studs of the world, and there will be few horsemen of note who will not avail themselves of the unusual opportunity for careful and critical examination of the splendid exhibition of all the breeds of horses now on the way to the forum of the World's Fair.

Stallions and mares in the breeding classes, except as noted, will be judged in the forum, commencing at 10 o'clock A. M. each day from August 24 to September 1 as follows: Standard Trotters, Thoroughbreds, French Coach, German Coach, English Coach, Hackney, Morgan, Saddle, Shetland Pony, Percheron, French Draft, Clydesdale, Shire, Belgian Draft, also Jacks and Jennets.

The managers of the Universal Exposition have provided cash prizes for exhibits of horses amounting to $94,300. This sum will be augmented by special prizes provided by National and State commissions and National associations of horse breeders to an amount exceeding $150,000, a sum largely in excess of all cash prizes to be offered this year for exhibits of horses by all the State and provincial fairs of America.

The California State Fair of 1904.

Stock breeders are taking much interest in the approaching State Fair, as it promises, from present indications, to present the finest exhibit of highly bred cattle that has been made for many years. The judging has been done for the past two years by Prof. W. L. Carlyle, at that time connected with the University of Wisconsin, and by Prof. E. W. Major of our own State University. Mr. Carlyle's judging was a revelation to not only the public but to the breeders themselves, for his explanations were so lucid and convincing that they gained many valuable points from him which some of them have have since put into practice to their own advantage. He will also judge again this year.

The prospect at present is that the show of Shorthorns will be far superior to those for a number of years past, both in quantity and quality, some magnificent individuals being shown. The best herds of Jerseys in the State will be in competition, which will be very close. In the Holsteins also there will be an excellent showing. The directors are endeavoring to secure the exhibition of the Pierce herd, which this year is inferior to none, as during the past year Mr. Pierce has purchased in Europe, through his agents, the choicest specimens procurable from the best herds on the continent. He is said to have paid almost fabulous prices for some of them, but is well satisfied with his bargains. If he exhibits them the lovers of fine cattle—and, in fact, every man who owns cattle—will have an opportunity of learning what the best European standards are.

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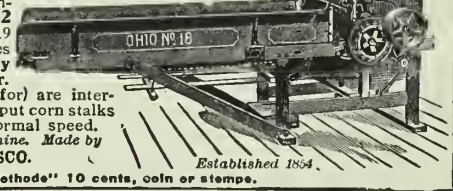
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AGRICULTURAL ENGINEER.

Crude Petroleum Paint for Farm Buildings.

Mr. John C. Cooper, a farmer of Watsonville section, has had a very satisfactory experience with crude petroleum in painting his farm buildings, and gives the Weekly Chronicle an interesting outline of his methods and results:

The crude petroleum oil and red metallic paint has proved on a good test to be all that was claimed for it, and is the cheapest, most durable and in every way the best for general outside work that could be used. It is cheaper than good whitewash, of one application even, and never has to be renewed, as its life is really unknown. In some places it has stood seventeen years and is still apparently as good as when first applied, according to information given me by others. The only objection to it is that it cannot be used for inside work, as it is so slow to dry, but will do for inside of such buildings as chicken houses. As a roof paint it cannot be equaled by any high-priced paint, and as a wood preservative it cannot be approached. While it is somewhat slower to apply than whitewash or thin, cheap paints, or high-priced paints well thinned, the slight extra time of labor really cuts but little figure, as the results are so satisfactory. For much work but one coat is really necessary, but I would recommend for a really good job a light second coat, applied two or three months or more after the first.

Cost and Formula.—The cheapness of the paint can hardly be realized. I painted a barn, granary, hired man's house of three rooms, woodshed, brooder-house, windmill tower, twelve small chicken-houses, and considerable fencing, besides soaking all posts in the straight crude oil, at an expense of $9.60. The formula I followed was: To one gallon of crude petroleum oil add three to three and a quarter pounds of Prince's brown metallic. The crude petroleum I got was heavy, so I had to add one gallon of coal oil to nine gallons of crude oil. Introducing three pounds of metallic per gallon, or thirty pounds to the ten gallons, the mixture was of the proper consistency to apply. Some crude oil needs more and other less thinning. I bought my crude oil at the Watsonville Electric Light and Water Works, at 2½ cents a gallon, and got the Prince's brown metallic wholesale in San Francisco at 1¾ cents a pound, which, with freight to Watsonville, cost me just 2 cents a pound. The coal oil cost 20 cents a gallon. As will be seen, the paint cost me 10 cents a gallon, and the slight labor of mixing it. First I added the coal oil to the crude oil in a barrel half filled with the oil, and then put in the metallic. The ordinary red metallic will be satisfactory, but as the Prince's brown costs very little more and is better, it is worth while obtaining.

How it Covers.—As a test to see how far the paint would go, another man and myself took a quart each. He applied the paint quickly while I worked it in more. His quart covered 30 square feet and mine 50 square feet. This was on new but seasoned rough lumber, the side of the barn. Neither then nor to-day can any difference in color, etc., be detected between the two jobs as they were side by side. This proves that a gallon will cover, first coat, on wood that has never been painted before, from 120 to 200 square feet, and at a cost of 10 cents for paint material. The paint is a little slower to apply than the ordinary linseed oil paint. And the lumber on which the paint was applied was well dried. The buildings were erected in December, 1901, and painted in August and September, 1902. The shingles on the hired man's house were very dry and commencing to warp. They absorbed a lot of oil, but they were so well treated that never a drop of rain has leaked into that house, while the linseed-oil-painted roof of my own house leaked during three or four heavy blows and rainstorms. And but one coat was applied to the hired man's house. A second coat, I believe, should be much lighter, so that it would cover fully twice as much as the first coat. The crude petroleum soaks into the wood and preserves it, filling all crevices, while the metallic gives it body, filling or rather stopping up the pores of the wood. On some surfaced lumber, of which the gates of a poultry fence surrounding my house and garden were made, it would be better if a second coat were applied. Still it looks well, and I may not put a second coat on till later. Surfaced lumber requires much less crude oil paint than the rough lumber; in fact, it is impossible to get a heavy coat on at the first application. Of course, no priming at all was done by me.

With Distillate.—The paint may be made a little cheaper, even, by the use of distillate at 6 cents a gallon as a "thinner" instead of coal oil, and I would recommend it. A friend of mine is about to try the paint and will use as a "thinner" the refuse Coalinga crude oil he has already used in a crude oil gas engine, and therefore his "thinner" will cost him nothing. The crude oil (the heavy, not the light, Coalinga) can be obtained now in nearly every small city in the State from gas, water or electric light works, mills, etc., at practically the first cost of oil at the wells—about ⅓ or ½ cent a gallon, plus the freight to the given points, which is much more than the first cost of the oil. The metallic may be bought at a local dealer's, or from a wholesale house cheaper if much of a quantity is needed. It comes in barrels—size of sugar barrels—and weighs 300 pounds. Smaller quantities come higher in price than I paid.

I tried an experiment of adding three, three and a half and four pounds of metallic to a gallon of oil, but found that a full three pounds was the best. Soon after applying the three-pounds-to-a-gallon mixture it turns dark, almost black, but as the wood absorbs the oil the color becomes lighter, till in six months or so the shade is that of an agreeable dull brown.

For Chicken Houses.—For chicken houses nothing can approach this paint. It is unequaled as a paint itself and is a positive vermin destroyer. My first chicken houses I painted outside and inside, not sparing the oil about the roosts. I have chicken houses 6x12 feet on runners and movable roosts, 2x2 inches, supported on other 2x2 pieces, fastened to the sides of the houses. These I almost soaked in the oil. At first some of the hens got a slight brown hue in places, but they had neither lice nor fleas, and never have had. The roosts should be replaced when necessary on account of dirt. Later I painted only the supports and roosts and boards nearby inside of the chicken-house and then whitewashed the rest, as I readily admit I got tired of the job of working on the inside of the houses. The result has been thoroughly satisfactory. Still I believe it would pay to have the houses painted inside and out. The head painter of the Government, at the Presidio, who first gave me the idea of the crude oil paint, informed me at the time that he would not have any whitewash on his farm, and that his father-in-law, who has a large poultry farm near Santa Rosa, found that glaring white buildings affected the eyesight of the chickens, strong as their eyes were, and interfered with their health and laying abilities.

For Farm Tools.—Another good use to which this paint may be applied is to plowshares, cultivators, teeth, etc., when one is through using them for a while, so as to prevent loss by rusting. As soon as I am through with a plow or other implement having exposed steel or iron parts I immediately clean it and rub over a little paint. This keeps the plowshare or whatever it is in good condition and it is no trouble to get off the paint, as it will scour off a plowshare and mouldboard in a very few feet, and leave it bright, clean and in fine shape for work, as well as having preserved it between times.

In conclusion, I will say that another beauty about the crude oil paint is that you know just what you are getting, and that it is a pure article, whereas there is no such trickery practiced in any other part of the house-building line as there is in painting, cheap and really injursous oil often being substituted for the good and at first it is very hard to tell the difference. Therefore, I believe that a crude oil paint is the purest, the cheapest by long odds and the most durable of all and is the one that should be and will become universally used in a short time, as soon as known, in places suitable for its use.

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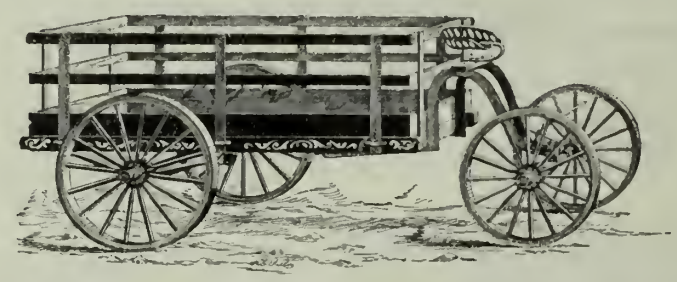
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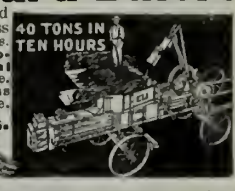
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Patrons of Husbandry.

The Grange in Fresno County.

TO THE EDITOR:—Wednesday, the 29th of June, was a history making day at West Park, Fresno county, the occasion being the organization of West Park Grange of the Order Patrons of Husbandry.

West Park Grange, Patrons of Husbandry, was organized at West Park school house with a charter membership of sixty-two of the brightest and most progressive of Fresno's citizens. Dr. and Mrs. Sherman, Mr. W. R. McIntosh, Miss Nellie Boyd, Miss L. H. Hatch, Mr. and Mrs. J. S. Dore and Rev. J. W. Webb are among the charter membership.

After organization, officers for the year expiring next January were elected from the best and most capable members, among them Mrs. M. E. Sherman Lecturer and J. S. Dore Secretary.

After the installation of officers the Grange unanimously passed resolutions pledging its support in favor of business co-operation of its members in favor of the State Raisin Association, and in support of its president, Mr. Madsen.

West Park is a prosperous portion of Fresno county. Many of its citizens are natives of Denmark, well known for their thrift and industry. They are very freely joining the Grange, for they see that through it they can have better co-operation, better association, better opportunities for discussing matters pertaining to their business interests, and better opportunities of social intercourse and knowledge of each other.

West Park Grange was mainly organized by the earnest advocacy of Hon. John S. Dore. Worthy Lecturer of the State Grange Herbert Tuck of Carpinteria was the installing officer.

In former times there were seven Granges in Fresno county. There are but two now, but much is said in favor of reviving subordinate Granges as a means of promoting better co-operation among farmers, and if this plan is carried out it will do it.

The character of its officers and membership leaves no doubt but that West Park Grange, Patrons of Husbandry, will do its part in promoting unity of action and the welfare of the farmers of California.

In former years, too, there were many Granges in southern California—eighteen in Los Angeles county. Did those Granges now exist, there would be more unity of action among citrus fruit growers than there is. Why not revive the Grange in southern California? It has a local, State and National organization. Let it be revived in southern California. J. T.

Cold Waves.

The cold wave, so much dreaded by most people, is really a blessing in disguise. It charges the atmosphere with fresh oxygen and a surplus of free electricity, which produces a most exhilarating and beneficial effect upon mankind. Torpid energies are aroused, physical vigor and resistance increased by the advent of a cold wave to such an extent that any additional damage is more than made up for.

The American climate has always been recognized as a strong factor in causing the aggressiveness and enterprise which have lifted our people into the first rank among nations and made us commercially supreme. The cold wave, with the results of increased energy and vigor, is a meteorological phenomenon peculiar to this country. The chief of the weather bureau at Washington explains the origin of this wave.

It appears that with a high-pressure system, rotating with great velocity, large volumes of cold air are drawn down from above the clouds, so that the cold wave is "home made," being simply a product of motion. The system of motion originates in the northwest, but the cold air comes from above the clouds.

The cold wave is not only useful for its beneficial effect upon the human system but as a cleansing and purifying agency. It dissipates the deadly carbonic acid gas, the product of respiration and combustion, and the foul effluvia of decaying matter, increasing atmospheric circulation generally and thereby relieving stagnation.—Medical Brief.

Turkish Preparations From Grape Juice.

From United States Consul T. H. NORTON, Harput, Turkey.

I desire to call the attention of American grape growers to several Turkish preparations from grape juice which strike me as worthy of consideration, possibly of imitation.

BASDUK.—Freshly expressed grape juice is evaporated down to the consistency of molasses. A considerable amount of flour or starch is mingled with it and the mixture is spread in thin sheets upon cotton cloth and exposed for two days to the sunshine. After drying, these are then removed from the cotton (a damp cloth being applied to the reverse side in order to loosen the sheets), and for three months they are preserved in tightly closed jars. After this period there seems to be no risk of decomposition in the product, which resembles leather in pliability and appearance, the color being that of the grapes employed at the outset.

KESSME.—This preparation differs from that of the preceding in that coarse wheat grits are employed instead of flour or starch, and the resultant product is obtained in cakes ½ inch thick, after drying on metal plates. It is less tough than the basduk and more savory.

SUJUK (ROJIK, IN ARMENIAN).—The meats of walnuts are strung closely together on pieces of stout twine 1 yard long. These strings are immersed in the mixture of grape molasses and flour described above, and after receiving a coating about ¼ inch in thickness are withdrawn and hung up to dry.

The last two are preserved for a few months in jars, as in the case of the basduk.

These three preparations are excellent articles of food, the last two being especially savory. They offer much nutriment in a compact form, and are exceptionally well adapted for the needs of the Oriental traveler.

In these days of "grape cures," when unfermented grape juice is prepared on a large scale for the use of invalids and anemic during the months when fresh grapes are not easily obtained, it might be well to consider whether these condensed forms of grape juice might not be advantageously introduced into American dietaries.

Formaline for Grain Smut.

Although it is not the season of the year for sowing grain in California, readers may be interested in the advertisement in this issue of a machine for applying the formaline treatment to kill smut germs in seed grain, and look into the matter before the fall and winter sowing season comes on. Formaline has a good record in this connection and growers should experiment with it in comparison with bluestoning.

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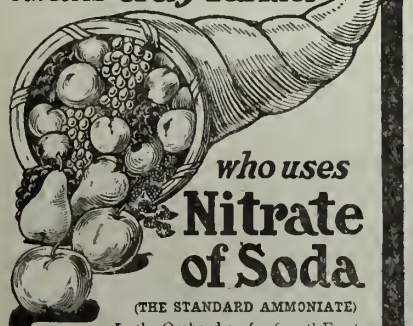
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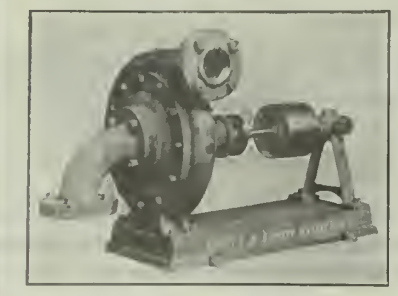
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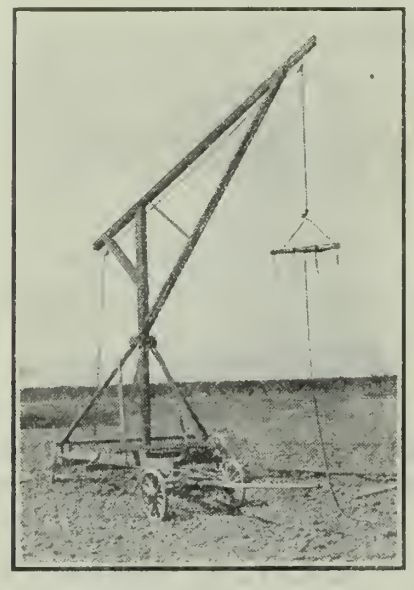
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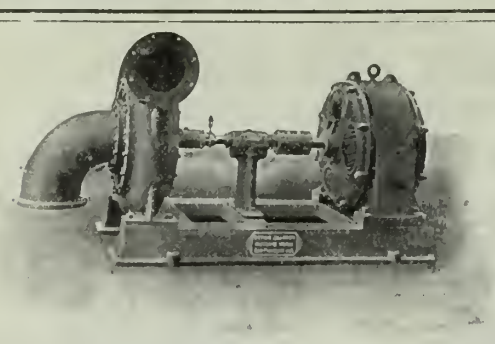
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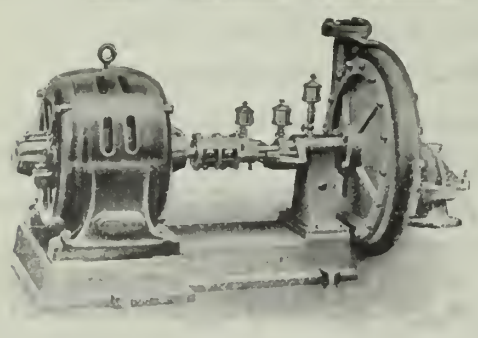
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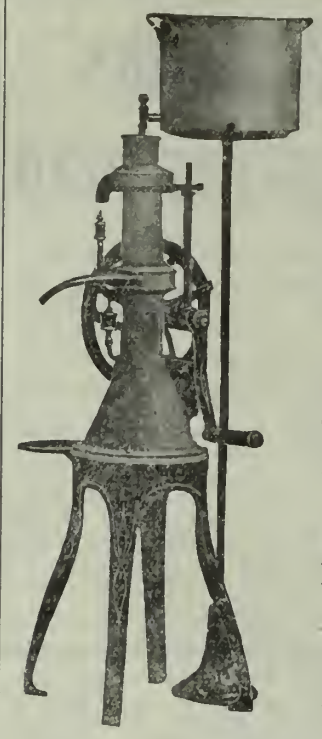
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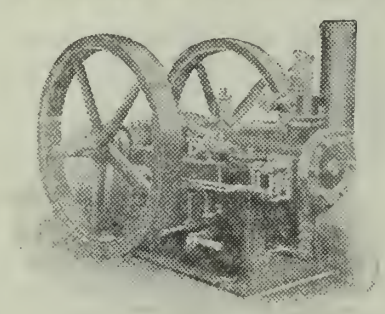
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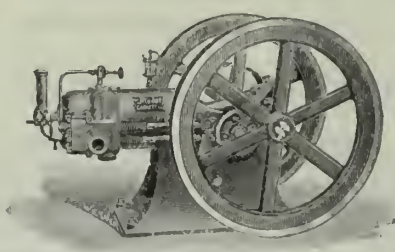
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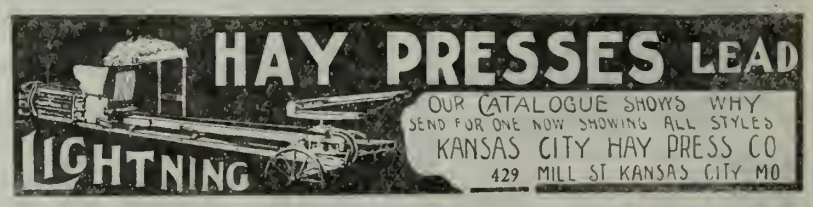
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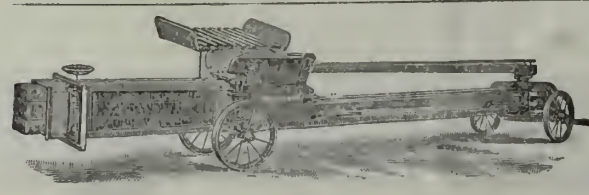
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Humboldt County Stock Farms.

This week we have views of some of the stock farming affairs of Humboldt county apart from the dairy industry, to which we have already referred, and which will recur later, for Humboldt is great in the dairy line. Live stock ranching began in Humboldt decades ago and was conducted along range lines which are still largely followed, although the settlement of the county, which is now rapidly advancing, will bring in more of the farming elements. According to the elegant souvenir of Humboldt county published by the Eureka Times, there has been much development in direction of better stock during the last score of years. Humboldt county has been shown to be adapted to breeding of the best types of horses. There has been produced in large numbers pre-eminently useful horses by using the French and English draft stallions upon the common cayuse mares, and the result is a remarkably good average class of horses. Almost every farmer nowadays has a team which is able to haul him out of any trouble. This could not have been said truthfully a few years ago. In breeding cattle many large fortunes have been made and more are waiting for the patient, painstaking man of the future. The cattle product of the county is estimated at 10,000 head of beef annually, worth about half a million dollars. Sheep farming sank with the general depression a few years ago, but the flocks are now again increasing and the sheepman is reasonably prosperous and content. The product is now about 12,000 head of mutton sheep and a million and a half pounds of wool per year. The supply of hogs is seldom up to the demand and shipping to San Francisco has reached large figures, while direct shipment to Honolulu has begun. The pictures on this page are illustrative of the stock country in the interior of the county. The ranges are nearly all in the open rolling and hilly country east of the redwood belt which hugs the coast line. In the south part of the county the sheep ranges cover a wide scope of country, well watered and easy of access, and capable of carrying many more sheep than they now support. The principal cattle ranges are in the Bear river section and the Bald hills section to the north and east of Eureka. The broad valley lands and the coast flats are largely given to dairy purposes.



The Preliminary in Ditch Building on a California Hillside.

California Ditch Construction.

In California ditches are built wherever they may be required with little regard to the character of the country through which the ditch must pass. If there are obstacles in the way, such as rocky, precipitous bluffs, deep canyons, and heavy timber, means and methods of surmounting these difficulties must be found by the engineer, as the water must be delivered at a certain point. The business of ditch construction, including flume building and the laying of pipe lines, has developed some interesting features. The first thing to be done in contemplating a ditch line is a preliminary survey. This is done usually by means of aneroid barometers and hand levels. These give approximate data, and in a ditch 30 or 40 miles long this may require several different routes to be surveyed before location is undertaken. The survey must contemplate the crossing of canyons, the tunneling of ridges, the passage of rocky slides, loose steep hillsides, and many other drawbacks to an easy and inexpensive construction. When the line has finally been located and the grade and size of ditch and flume determined the work of construction begins. Where large amounts of lumber are to be consumed in flume building, locate a saw mill at some convenient point along the ditch line in a suitable body of timber, and cut and float the lumber down the ditch and flume to the point of construction.



Sheep Ranch in the Hills. Buildings of a Hill Ranch. Characters of Upland Ranges.

Scenes Among the Upland Stock Ranges of Humboldt County.

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SAN FRANCISCO, JULY 16, 1904.

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The Week.

The elements this week are quite favorable to open air activities, and rapid progress is being made in all lines of crop gathering. The out-turn in grains is not the best, either in quality or quantity, and there seems to be every warrant for improvement in values. It is, however, rather an off year in grain in many parts of the world. The requirements from supply countries will be great. France, for example, will be in the market for unusually large purchases, because of the deficiency in the home crop.

Eastern fruit shipments thus far are about 1000 cars up to July 13th—about 300 cars behind last year and 250 behind the previous year. The daily shipments now are good and this year's figures may be brought closer to last as the season advances. There is, however, the sharp call for canning and the good outlook in drying which act against Eastern shipment. The weekly trainload shipment direct to the English market began this week. There has been quick sale for what has crossed the water so far, and the season's prospect is good for prices.

Wheat has been on the up-grade since our last report. Futures have advanced here about 3c per cental, in sympathy with an upward turn in Chicago. Spot wheat is not doing much, although shipping wheat is quotable 50c per ton higher. There have been no clearances, but 28,000 barrels of flour have gone to China. Two ships have come in under charter; one at 17s 6d for wheat, the other 19s 6d for wheat or barley. Barley spot is firmer and futures higher. Other cereals are unchanged. Beans are quiet and steady. Bran and middlings are held as before, but the movement is slow. Oilcake meal is scarce and high. Hay has not improved here, but country trading shows stiff prices for high grades as growers are refusing to sell at current rates. All meats are quiet and unchanged. Butter is a little heavy, owing to pressure of Eastern. Cheese is firm, as the demand is good and desirable supplies rather light. Some small cheeses are coming from Oregon. Eggs are crowded up; fancy fresh are not abundant, but the best Minnesota are being worked off in their place. Poultry is about the same, only nice young stock going well, while the market is loaded with Eastern stock. Potatoes are lower, with increased receipts. Onions are unchanged, with choice red firmer because of less supply, while yellow onions are about out. Fresh fruits are selling fairly, while the business in dried fruit is mostly doing in the country, and the trade is firm for peaches, apricots and apples. There is nothing new in prunes except shipments; 50,000 pounds dried fruit, half prunes, for Australia, and about the same by another steamer for British Columbia are noted. Valencia oranges are selling pretty well and lemons are steady, with a moderate demand. There is inquiry for almonds and dealers are looking for nuts in view of the Davisville concentration. Chile walnuts in New York have opened firm. Honey is quiet and hops dull, as growers are holding off. Wool shipments include 130,000 pounds to New York; little offering here.

We hope to find space next week for the full report of U. S. Consul Tourgee from Bordeaux about the French buying California prunes, giving them another processing and returning them to Atlantic cities as French prunes. Some of the comments of the newspapers upon the parts of this report which they have published are rather amusing. They are inclined to berate our prune growers because they do not make prunes in the French style and thus shut off this trade. The time may come for this, but it is not yet. California prunes can be processed in the French way here; some of the samples prepared by Mr. Gillet are probably as fine or finer than the French ever put in fancy packages. Others have attempted the same on a large scale and have succeeded in making good French prunes, but it did not pay. It will pay when more people are taught that California prunes French style made here are as good as California prunes French style made in France. But probably some people will not live long enough to learn this lesson. They buy a French label and nothing else, no matter what is under it or over it. If we cannot get them to eat California prunes in any other way, let them buy them via Bordeaux. We are in the business at present to get a lot of California prunes into every mouth in the universe—let them go any way they like to get there.

It is quite a significant fact that the representative body of men comprising the directorate of the California Breeders' Association should undertake so energetically a movement for enlarging and improving the facilities and equipment of the State University for agricultural education and experimentation. It shows what a strong place the value of agricultural education along lines of practice holds in the public mind. It is not many years since agricultural professors and investigators were beseeching the farmers to think more of education in their industry and appealing to legislatures to provide more liberally for the cost of it. Now those who esteem agriculture most highly and know best its needs are themselves demanding the advancement and extension of agricultural education. The legislatures have to deal now, not with a few professors who desire a chance to help others, but with a throng of practical people who demand what is needed for the promotion of their own important industry. This state of affairs exists in all the States, and most States are meeting its demands liberally. California has only begun to do things in this line and it does them in a small way. On another page is a bill which the stock growers will present to the next Legislature. It is a proposition which all who desire the advancement of the State should give heed to.

The State Board of Trade has done well to take up the subject of growing more glutinous wheat in California, so that our millers shall not have to buy it in Kansas and elsewhere at the East. The Board has appointed a committee to promote investigation of this subject in co-operation with the Agricultural Department of the University of California. The University has had this subject under observation and experiment for some time, and it will not be easy to determine. All glutinous wheats thus far introduced—and they have been many and from many parts of the world—become starchy when grown in the interior of California where most wheats are grown. The natural conditions there advance starch and repress gluten in the grain. No amount of pollenation or fertilization will prevent that. But California has coast regions which can grow glutinous wheat if satisfactory rust-proof varieties can be had. There is much to do along this line.

QUERIES AND REPLIES.

Loss of Young Fig Trees.

To the Editor:—I am sending you by express six fig trees, hoping that you may be able to assist me in determining the reason why they did not grow. I planted over 200, but have only 10% growing. Last January I plowed up and cross plowed a field of alfalfa that had been yielding good crops for a number of years. It is white ash soil (Fresno sandy loam). I then dug holes every 30 feet, 2 feet deep and 3 feet in diameter, and filled these holes with soil from a piece of land that was more sandy, thinking there might be some alkali in the alfalfa field. I mixed about one and one-half pounds of bonemeal with the soil as I put it in the holes. In February I planted the fig trees and settled them in with ten gallons of water each, and soon after I irrigated them. They have had irrigation and cultivation since sufficient to keep the ground moist and friable. A few of the trees started out and have made a nice growth. A few have started (considerably later) about half way up the tree, but 90% commenced drying out at the top and have died down to the ground. The trees had good care when received from the nursery, but the roots were badly bruised and mangled up when I received them, necessitating a good deal of root pruning before planting. I would very much like to have a fig orchard on this land, and if you can advise me as to whether the fault is with the soil, or the care given them, or the tree before it was planted, you will be helping me a good deal.—Reader, Fresno county.

We have carefully examined the fig trees and do not find upon them anything which definitely accounts for their failure to grow. There is no disease or insect apparent; the bark and tissue are free from decay or fermentation. The dying back of the top seems to be clearly due to inefficient or inadequate root action. Failure of the roots to make proper connection with the moisture of the soil and to supply sap resulted in the drying and dying back of the stem—in some cases almost to the ground surface. Some of the specimens show that since the top was killed by evaporation root action has been restored and a tendency to sprout from below is apparent. Judging from the general appearance and the condition of the young trees, one would say that they certainly had perished for lack of moisture. This, however, is not tenable, because your letter indicates the use of water in sufficient quantities. Under such conditions the trees should have grown unless they had been subjected to severe drying out before planting and were subsequently unable to make proper connection with the soil when they were placed under the favorable growing conditions which you gave them. The mangling of the roots would not altogether account for the failure of the trees, because if the remaining parts were in good condition many new roots would have started. We are inclined to think that, relying upon the accuracy of your account of their treatment after planting, the failure of the trees must be attributed to their ill treatment and exposure either in the nursery or during their removal for planting. It is, of course, possible that between the time of planting and the beginning of regular irrigation there might have been an interval during which the young trees could have perished for lack of moisture. Ten gallons of water in a sandy soil, especially on a field where alfalfa crowns had been plowed under, would not last long, and if there was much dry time following, the trees might dry out before new rooting could be made, even if they were in good condition at planting. This view of the case, of course, depends upon what was the actual condition of the soil for a certain time after planting.

Land for Strawberries.

To the Editor:—I want three to five acres especially suited to small fruits, strawberries leading. I would prefer sediment land where water could be had from a creek. If that could not be had, how would the heavier lands do if water was pumped on? I have heard about Oakley and Modesto. Would that sandy land do for strawberries?—Enquirer, Soquel.

With reference to your question about land for small fruit, you can certainly find creek bottom land with water available for irrigation in many localities in the coast valleys in the northern part of the State, but the question would arise whether the situation was desirable from the point of view of marketing the fruit. It would probably be better to get into a strawberry district, whence shipments are regularly made, than to undertake to grow them at a distance from the market, without regular trade and trans-

portation facilities, even if you could get suitable land and water at a less rate. There are certainly good strawberry lands in the vicinity of Oakley and Modesto, and in the vicinity of Modesto excellent strawberries can be grown and water be available from the regular irrigation system recently opened there. Outside of irrigated districts, water could be profitably pumped as it is done in Watsonville, in Florin and other districts largely given to the growth of small fruits. It is not possible for us to designate particular places. You should undertake to visit different places and convince yourself about their availability. You could be pretty sure, however, that such lands as you desire, with water from running creeks or from wells, are situated adjacent to transportation facilities in many sections of the central part of the State. Probably the best way to get an idea of what is available is to advertise for tenders of land in the PACIFIC RURAL PRESS, and then you can canvass the returns and visit what seem to be most promising places.

Is Dairy Education Worth Gaining?

TO THE EDITOR:—I would like to go through the College of Agriculture, but before doing so, I would like to know if it will benefit me or not. Dairymen around here say it will not benefit me. The land around Ferndale is owned and rented out by a few wealthy persons. They know just about how much the land will bring, and fix the rent accordingly so there is not much of a chance for a renter to go ahead. Eighty acres is about the average size of a ranch here. I would like to ask you if there are larger ranches or farms, in other parts of the State, where I could obtain a good job as foreman, or renter, and make some progress, after graduating from the College of Agriculture.—YOUNG DAIRYMAN, Humboldt county.

There can be no question at the present time but that a thorough and faithfully pursued course in dairy science and practice will enable one to do better dairy work either for himself or for others. In such a course you will certainly learn things which will enable you to select and breed cattle better, to feed them more economically and effectively and to manufacture milk into highest class dairy products. By understanding, as far as possible, the science involved and by knowing the practices which have yielded best results, you can certainly use land for dairy purposes to better advantage and gain more for yourself than can those who are following dairying in merely the ordinary way. The demonstration of this fact is found in the great demand which now prevails for dairy instruction and in the preference which owners of dairy properties are giving to educated foremen and assistants over others. Our experience hitherto in California is that there is a demand for well qualified operators in our dairy establishments and for foremen on dairy ranches. Of course, very much depends upon the natural talent, energy and adaptability of the man himself. The simple fact of having graduated from the College of Agriculture will not of itself insure success, nor satisfactory employment, but if the man has the necessary personal qualifications a systematic course of instruction will bring to him opportunities which he could not otherwise attain.

The Trees Are Beyond Spraying.

TO THE EDITOR:—Please tell me which spray to use on prune trees that are dying. I send twigs showing two different diseases that are troubling them. I shall be much obliged for any information you can give.—FARMER, Contra Costa county.

The little twigs which you send do not show why your trees are dying. They simply show that they are dying. Any tree which almost refuses to make new wood and has a small leaf, lacking in the proper color, is perishing. The cause must be sought not in the twigs, but in the root system of the tree or in the soil, in which the trees are failing. One is forced to this conclusion by the character of the growth itself and by the fact that the specimens which you send do not show any specific disease. Why your trees are dying cannot be told then from the specimens. It may be due to root failure, owing to the fact that the stock on which the trees were grown is not suited to the soil, or it may be that the soil itself contains alkali or some other substance injurious to vegetation, or it may be that they have been so neglected through lack of cultivation that the soil has not been able to retain moisture enough to enable the tree to make satisfactory growth. The specimens indicate that, whatever the matter is, it has been in progress for some time, and that possibly it was neglect or injury last year which brings such weakness to the trees the present season. There are so many things that might occasion the trouble that without knowing more about the soil and situation one can only conjecture as to the real causes of the unsatisfactory condition which the specimens show.

Effect of Ill Drainage.

TO THE EDITOR:—We send samples of trees, all of which appear to be attacked by some disease. My brother thinks that the unusual season accounts for it. It is worse where the drainage is bad. The whole place, however, is poorly drained. Is there anything that we could apply? Do you think that flowers planted in an orchard are injurious? We have heard so. We will be very grateful to you for your advice.—ANXIOUS INQUIRER, San Mateo county.

The specimens taken from dead trees seem to leave no doubt that the trees have perished from excess of water in the soil. No application whatever is effective in saving trees from root rot and death under these conditions. The growing of flowers is only injurious to fruit trees when it deprives them of some moisture or plant food which the trees should have for their own growth. Flowers could not have injured these trees unless the growing of the flowers led you to apply more water than was desirable for the trees. If this was not the case, and the excessive moisture comes from natural causes, there is no remedy except to underdrain the ground with tile drains at a depth of 3½ or 4 feet, if you have an outlet for the water at that depth. Of course, some trees can endure excessive moisture better than others, and yet it is doubtful whether you will make any fruit trees profitable without securing suitable drainage.

Perishing Palms.

TO THE EDITOR:—I have several palm trees of different varieties in my garden which have been neglected for several years. Kindly inform me through the columns of your paper the best method to pursue and the right time to trim the trunks and remove the dying leaves.—INQUIRER, Auburn.

We should apply water at once and then work up the ground surface to prevent baking again. The trimming up of the palm stems can be done at once or at any other time you see fit. It is a matter of taste. The way natural to a palm is to maintain a green crown and allow the dying leaves to decline and finally form a thick clothing for the stem, retaining their places for many years. The view of an old palm should present a clean, cylindrical shaft below; above that the cover or thatch of dead leaves and above that the crest of verdure. Most people, however, think that a palm does not look neat with its shaft littered up that way, and so they cut off all the old leaves and then cut off the living ones as soon as they begin to show discoloration of age. If you like that sort of a palm you can go to plucking the old plumes whenever you feel like it.

Wild Canary Grass.

TO THE EDITOR:—Inclosed find a sample of grass heads. I find it growing wild near here. It looks so much like timothy that people say it is. It grows so well around here that it might be worth propagating if it made as good feed as timothy, and is very pretty when green.—READER, San Luis Obispo.

The grass is identified as small canary grass (Phalaris minor). It is not timothy, but is one of the canary grasses, which, although a native of the Mediterranean region, has become naturalized in several parts of California. It has no reputation for value as a forage plant, although while young it may serve some useful grazing purpose. It is a near relative of the well known canary grass (Phalaris canariensis), which produces the popular bird seed.

Man-Root Vine.

TO THE EDITOR:—Please let me know through columns of your paper what is the name of a creeping vine that has an immense tuberous root as long as 3 feet and as large as 1 foot in diameter, the top of the root is as low as 4 to 5 feet below surface of ground and grows in the sand hills in western part of city.—M. G., San Francisco.

The plant is the common man root, so named on account of the large root, which is often the size and not unlike the shape of a man's body; it is also called "Old Man in the Ground." Botanically, it is Echinocystis fabacea, of the ground family. It has long climbing or trailing stems and roundish-lobed leaves. The flowers are greenish white, inconspicuous. The fruit is globose, 2 inches in diameter and covered with spines.

Dodder Again.

TO THE EDITOR:—I enclose sample of alfalfa having parasitic growth clinging to it. What is it? Is it dodder? Is it harmful?—H. B. C., Tulare.

It is dodder and it is harmful. Discussion of treatment was given in the PACIFIC RURAL PRESS of May 14 ult.

WEATHER AND CROPS.

Report of the U. S. Weather Service for Week Ending July 11, 1904.

ALEXANDER MCADIE, Forecast Official and Section Director.

Sacramento Valley.

The weather was clear and cool during the week, with light winds. Grain harvesting and hay haling continued without interruption. Wheat and harley are yielding light crops in most cases and the quality of the grain is prohahly due to excessive rainfall in the spring and the dry north winds in May and June. The hay crop is ahove average in some sections. Hops in the Wheatland district are in excellent condition and the yield will he larger than usual. Apricots and early peaches are nearly all gathered and disposed of. Large shipments of Bartlett pears are heing made from Sacramento. Prunes and peaches are reported light. Grapes are in good condition and a heavy crop is expected. Oranges at Palermo are developing satisfactorily.

Coast and Bay Sections.

Cool weather continued during the week and conditions were favorahle for crops. Light rain fell in some sections. Grain harvesting and thrashing are progressing satisfactorily, and the yield of wheat, oats and barley is reported very good. Hay haling continues; the yield and quality are above average in nearly all sections. Hops are doing well and a good crop is expected. Sugar beets and heans are making excellent growth. Apricot picking has commenced and the canneries are in operation; the crop in some sections is heavy and the quality excellent. Peaches are ripening and in some localities will yield a fair crop. Apples and pears are being injured by codlin moth. An unusually heavy crop of grapes is prohahle in all sections. The first Sweetwater grapes were sent from Vacaville during the week.

San Joaquin Valley.

Clear and seasonahle weather prevailed during the past week. Harvesting and threshing grain are progressing rapidly in all sections; the crop is below the average. Fire destroyed several hundred acres of grain on Victoria Island on Tuesday. A good hay crop has been harvested, and haling is progressing. The deciduous fruit crop is ripening rapidly, and in some sections the crop is good. Dryers and canneries are in operation, and large shipments of green fruit are being made to local and Eastern markets. Melons are heing shipped freely. Orange prospects are good. Grapes are making good progress, and a large crop is promised. Feed is getting scarce, but stock are healthy and in fair condition. Water in ditches is getting low.

Southern California.

Clear days and cloudy or foggy nights prevailed during the week, with temperature slightly below normal. Alfalfa is yielding a fair crop in some sections, hut grain and hay are much below average. Beans and sugar beets continue in good condition and average crops are prohahle. Grapes are making satisfactory progress and prospects are good for a large yield. Melons are of excellent quality and the crop is heavy. Deciduous fruits are ripening slowly, and a few pears, peaches and apricots are in market. The navel orange crop in some sections will he lighter than usual. Berries are plentiful and of good quality.

LOS ANGELES SUMMARY.—Cool until the close of the week when hot spell set in. Apricot harvest is in full progress. Some complain that oranges are not setting more than half a crop. The demand for irrigating water is increasing.

EUREKA SUMMARY.—Oats are filling nicely, but little will he thrashed as most of the crop will he cut for hay. Apples will be much less than last year's yield, caused by cold rains while in hloom.

Rainfall and Temperature.

The following data for the week ending 5 A. M. Wednesday, July 13, 1904, are from official sources and are furnished by the United States Weather Bureau for the PACIFIC RURAL PRESS:

CALIFORNIA STATIONS.	Total Rainfall for the Week	Total Seasonal Rainfall to Date	Total Seasonal Rainfall Last Year to Same Date	Average Seasonal Rainfall to Date	Maximum Temperature for the week	Minimum Temperature for the week
Eureka	.07	.53	T	.04	60	48
Red Bluff	.10	.10	.00	T	98	60
Sacramento	.00	T	.00	T	86	52
San Francisco	.00	T	.00	T	64	52
Fresno	.00	.00	.00	T	98	54
Independence	.00	.00	.00	.03	92	60
San Luis Obispo	.00	.00	.00	.00	80	46
Los Angeles	.00	.00	.00	T	86	56
San Diego	.00	.00	.00	.02	86	56
Yuma	.00	.00	.00	.07	110	68

THE STOCK YARD.

Shorthorns in California.

NUMBER II.

A VISIT TO THE QUINTO HERD.

Written for the PACIFIC RURAL PRESS.



King Spicy.

Fortunately for me, I had the time to spare and wrote Mr. Hunt to meet me at Newman on Wednesday last on arrival of the 8:30 A. M. train from the city. The journey was devoid of any particular incident and easily accomplished. At Tracy, where we changed cars, the S. P. Co. had been making many costly improvements, and this place has become the important railroad point that Lathrop formerly was. Who of us will ever forget the Lathrop eating house? I used to look forward with dread to that twenty minutes and the "six bits" spent there. The Tracy dining-room is run by the S. P. Co., clean, airy and inviting, excellent food, attentive service and reasonable in price.

For 30 miles we rode through a country level as a floor, soil a deep, rich sediment, the wash from the foothills, which lay about 6 miles west of the track, while about 3 miles east is the San Joaquin river, and as we sped along and each succeeding mile seemed as level and as rich as the previous one it seemed to me that some feasible plan for irrigating this section might be found; and I mean to give this a little time, as there are several fortunes in a proposition of this sort if it can be made successful.

About twenty minutes before reaching our destination the brakeman called out "Rose Lunnon"—at least that is what it sounded like—and as I was prepared to see one of the greatest alfalfa regions of California, roses or any other flowers in profusion would not have surprised me. As the train slowed down there came into view a white sign with a big black crow painted on it, with the words "Landing Hotel" following. I had just been reading "Barnaby Rudge" and visions of Grip the raven and Hugh of the Maypole passed before me. But here was an easy rebus, as the station bore the name "Crow's Landing," and the euphony of the brakeman's call was apparent.

However, my curiosity was excited by the oddity of the name, and, turning to a passenger on the seat behind me, I asked him if he knew why they called the railroad station "Crow's Landing."

"You must be a stranger in the San Joaquin, not to have heard of the Crow family, after which this place is named," said he. "There were several brothers, who came here from Missouri in early days hounds the papers are full of it, and Uncle Ben used to go out nearly every day. No anise seed bag in his, either—just plain coyote. How he would ride—it was a sight; and he enjoyed it, too.

NEWMAN.—"Well, good day, I am going to get out at Newman," said my informant, and I followed. Mr. Hunt was at the depot, and after shaking hands



Chief of Valley View 4th 182,590, as a Two-Year-Old.

heartily (by the way, you can judge a great deal of a man's earnestness of character by his hand shake), we got into the buggy and started for the Howard alfalfa ranch, about 2½ miles south of Newman.

On the way out to the alfalfa ranch I learned a few facts about the town of Newman, which has a population of 750 and is situated in the heart of a great



A Glimpse of the Quinto Herd.

alfalfa region where dairying and stock raising have been steadily growing by leaps and bounds. At the present time the gross volume of business of the creameries in and about Newman is from $25,000 to $30,000 monthly, according to the market prices. This puts a large amount of money in circulation and the region is very prosperous.

The Bank of Newman opened for business October 1, 1903, with a capital stock of $75,000.00, and June 1, 1904, had deposits of $114,000.00. Newman is in Stanislaus county, about 3 miles west from old Hills Ferry on the San Joaquin river, and takes its name from Simon Newman, who was a merchant at Hills Ferry and owned the land on which the railroad located the new townsite.

Continuous alfalfa fields on each side bordered the road to the Howard ranch, and after having driven about thirty minutes Mr. Hunt said:

"Well, here we are," and crossing a bridge over an irrigation ditch we drove into the door yard.

HOWARD ALFALFA RANCH.—"And there is our summer stable," and he pointed to a row of trees under which about fifteen animals were tied up to ample mangers filled with alfalfa hay that on later inspection I found had been cured in such a way as to lose as little as possible of its freshness and succulence.

"But before we look at that stock, come and see the cows in the herd."

We found about fifty of these in a field of alfalfa that was turning into blossom, and as we walked through it waist high numberless butterflies fluttered from one purple flower to another. The rich, shining coats of the cows were a strong contrast to the dark green color of the clover, which, if cut for hay, would have made more than two tons to the acre. It was no wonder that the Howard alfalfa ranch should be well spoken of when it could produce four such crops per year.

THE CATTLE.—And then Mr. Hunt showed me the different individuals of the herd and told me to which families they belonged.

"In 1857," said Mr. Hunt, "Geo. H. Howard brought to San Mateo two cows, Miss Nightingale and Hopeful, and two bulls, Orion and Young Belvedere. The family name of Hopeful has been given to all the descendants of that cow. Miss Nightingale had two calves, Philomena 2nd and Miss Harold. All these Miss Harolds have also retained their family name. From Philomena 2nd came the Philomena family and the Mysterys. From the Mysterys came the Asters, and from the Asters the Dianas and the Ramonas. From Philomena 3rd came the Dandelions and from Philomena 8th the Victorias. Think of all the calves that have come from those two cows! I sometimes speculate on the number.

"We have several cows that I will show you," said Mr. Hunt, "and if it was not so far to St. Louis, we would send them on to compete in the dairy demonstration test where the capabilities of the Shorthorn as a dual purpose animal will be exploited again."

He pointed them out, and they certainly looked to have the qualities necessary to bear out his assertion that they would not be in the lower ranks.

"We don't keep any records of what these cows do at the pail, because their calves are all suckled and get all the best that their mothers give, and when you see the weanlings I think they will show the equal good fortune of those calves of having such mothers."

They were a fine lot of cows, largely of Bates' breeding, and of the type that Mr. Hunt called "the farmers' cow." I will not discuss their individual merits—they were all good cows and bore out the statements made to me at Sacramento last fall, that the Quinto herd was comprised of good Shorthorns.

"Now, I want you to see the herd bulls. Of course, King Spicy will be first on the list and this is his paddock." He opened the gate and we both went in, to find the old fellow taking his ease lying down in the shade. Mr. Hunt spoke to him, and, getting up, he turned his strong masculine head toward us with a movement so deliberate that you could imagine him saying a quiet "good morning," and then he paid no further attention to us. He knew we were loyal subjects and we knew the King could do no wrong, and with this thorough understanding we looked at him from all points of view.

I have not seen many bulls with straight backs, body deep and long, with well-sprung ribs like his, for in shape Spicy is more like a Berkshire than any bull I ever saw; but look at him where I would I always came back to that head, for there was his strong breeding quality firmly stamped upon it, and that head will henceforth be the kind I shall look for. It was, to be sure, the real Scotch head, but the countenance carried with it an expression of animal instinct far beyond the average.

"He is always like this," said Mr. Hunt, "and his



Prize Winners in Front of Summer Stable, Howard Alfalfa Ranch.



Royal Fashion 191,757.

calves all have his good disposition and you don't have to spend much time halter breaking them. It seems to be natural for them to be handled. He knows you are a stranger, but he also knows you are his friend, and that fact established, you can do anything with him. He is an old hero, and bears his honors modestly like the real ones. I think, though, if he really suspected how much we thought of him he would be considerably puffed up.

"We have two fine herd bulls in Royal Fashion and Chief of Valley View 4th, and we must see them next. Fashion's calves are coming very good indeed, well formed and large, and we are much pleased with him as a sire, as he has all the requirements, conformation, constitution, breeding and disposition, and I think you will be glad to see that both of these bulls have gone steadily ahead since you saw them last year.

"Mr. Moffat, the wholesale San Francisco butcher, is here to-day. He has just bought our beef on the range, and I want him to go with us and see these two lads."

The Butcher's Point of View.—I found Mr. Moffat a critic from the point of view of what an animal looks like hung up with his hide off; not the Omaha kind, however, that wears the plug hat and draws the big salary, but a modest gentleman who had accumulated his wealth by honorable dealing and equally strict attention to business detail. Walking up to Royal Fashion, he said:

"Here is an animal with any amount of prime meat on him. In fact, he is heaviest where the primest meat is (the porterhouse), and that is what gives value to a beef animal. I can afford to pay a good price for steers of the type they raise on the Quinto," said Mr. Moffat, "they have the shape and size that takes the eye. The bunch of steers I got were mostly long twos, but they are very fat, showing their early maturing qualities. And the money for the producer is in raising the biggest number of pounds of beef at the least expense, which means, too, in the shortest possible time.

"Mr. Hunt told me on the way down that this bull weighed 1600 pounds at sixteen months old. I was a little incredulous, but now that I have seen him it is all right; and if that bull breeds like himself, that is a very profitable kind of animal to put feed into; in fact, I don't know any better. It is out of the prime meat that the retail butcher makes his profit. The demand for porterhouse steak has outgrown the supply, consequently there is a larger surplus of coarse meat that must be worked off, and if he sees that he can get the good porterhouse cuts out of a carcass, he sees better chances for profit and is willing to pay me more for it.

"Now, here is a type of animal," said Mr. Moffat, as he walked to Chief of Valley View 4th, "that has very little coarse meat on him. He is absolutely neat, as near as can be. His head and bone show that; besides, his body is beautifully rounded and has no protrusions anywhere. He is almost cylindrical, and you could cut a steak down pretty close to his hocks. A neat beef animal is one that has the smallest amount of waste on him. Just look at that shoulder now, for there is no need of discussing the other end—that speaks for itself. See how trim and shapely it is and how full the flesh is on it and back of it. I don't suppose you ever buy a cross rib steak; this is where they come from (and he located the spot on the shoulder). If people only knew it, there is a lot of good eating meat on a good beef animal beside the porterhouse and prime ribs; but it naturally follows very closely that these other lower-priced cuts are best out of the animals that carry the most prime meat, and the way to raise them is to have them good all over."

I explained to Mr. Moffat that I had seen these two bulls in the show ring at Sacramento in 1903, and that the Royal Fashion had taken two ribbons and Chief of the Valley View 4th had also taken two, beside the purple ribbon for Junior Champion bull, and that in 1902 Royal Fashion had two ribbons and Chief of Valley View 4th the same, and that he was looking at what Professor Carlyle had said, when judging them, was a credit to any State and good enough to show anywhere, and that I was glad to hear his practical views coincide exactly with what Professor Carlyle had told us about the value of an animal with the most prime meat.

The Farmers' Cow.—"One thing I saw down on this ranch," said Mr. Moffat, "struck me as quite remarkable. It is not wonderful, because all of us know the Howard cattle are good, but it was a sight all the same. We were up at the Fifield camp where the steers are, and in the morning I went out and one of the men was milking a cow. On either side was a big fat calf tugging away also, and that is the first time I ever saw a cow with three milkers—and now, that's not all. The cow was on dry range feed, very smooth in shape, and in good fix to kill, and on my way back to the Quinto house, Dell Rojas, the head vaquero, showed me four of her offspring—a four-year-old cow and three-year-old steer, one of the best on the whole range, a two-year-old heifer and a yearling heifer that was almost as big as the cow. These, with one of the calves that was sucking her, made five generations from that cow, every one of them a splendid beef type. I don't know what a man wants better than that for a useful kind of cow, and it looks to me as if she was a hard one to beat, as she held pat four queens and a 'bullick.'"

Mr. Hunt then showed us a roan bull, which he said had just come off the range, a pure bred by Spicy.

"See how quiet he is—all the Spicys have the same disposition. All our range bulls are pure breds and most of them are Spicys, so you can see our grades are good; as, indeed, they have to be for us to sell grade bulls. People are getting very wide awake to the value of good blood in range bulls; they demand it and are willing to pay for it, as they realize the time and money it takes to breed up to the desired point. Evidently our customers are satisfied, for they come back again and always send their friends to us. We shall commence to raise a crop of Royal Fashion and Chief of Valley View calves to turn out, so we are constantly changing the blood in our range herd. The grade bull calves we have to sell this year are mostly by Spicy bulls, pure bred, of course.

"Royal Fashion 191,751, is by the Marr bred bull imp. Conqueror 149,048, out of imp. Claudine by the Duthie bull Prince of Fashion—the second dam of Conqueror, sire of Royal Fashion is Missie 141st by William of Orange 95,736. In Sander's History of Short Horns, page 656, Missie 141st is described as being one of the best cows at Uppermill. Royal Fashion shows his Scotch breeding, and his calves show that he 'breeds on.'

"Chief of Valley View 4th 182,590, is by Highland Chief 136,717, out of Daisy Duchess, tracing to the Renick Rose of Sharons. Commodore 118,477, the sire of Highland Chief, was a prize winner and was by imp. Band Master 96,032, a Cruikshank noted show bull and sire of winners; dam Clementina Queen 3rd by the Marr bred bull imp. Master of the Mint 99,462, who in turn was sired by the celebrated William of Orange. Here is gilt-edge breeding, and right on top where it counts, combined with perfect conformation. A few Spicy heifers have been bred to Chief of Valley View 4th, but their calves have not yet arrived. It is no speculation, however, as to what they will be.

"Now come on down the line and see what we have here to show this year," said Mr. Hunt.

(To be continued.)

THE RANGE.

Native Vetches.

To the Editor:—Enclosed please find a branch of a plant which grows very rank here wherever the ground is irrigated. Please tell me through your paper the name of same and value, if any. Cattle eat it with a relish.—C. P. Gould, Monterey county.

The plant is known as "Dakota vetch," or, in California, as "Spanish clover" (Lotus Americanus). It is widely distributed over the Western States, and in many places is highly prized for forage. It is very nutritious, especially during fruiting season, and is particularly valuable, since it appears during summer and fall, when green forage is apt to be scarce. This plant has been previously discussed in our columns. The following notes upon it and an allied species are prepared by Mr. H. M. Hall, assistant botanist at the University of California:

Torrey's vetch is frequently met with in the Sierras from Mount Lassen on the north to the Kern river on the south, while in the mountains of southern California it is replaced by a very similar species, Lotus oblongifolius.

These vetches belong mainly to the transition zone, being most abundant at 4000 to 8000 feet altitude. They do not, however, grow in exposed places, but are restricted almost entirely to moist soil along shaded stream banks. The southern species is occasionally carried down the streams and has been found at as low as 1000 feet altitude; but this is exceptional. Notwithstanding the fact that these are perennials, often with running underground stems, it would seem that they are scarcely adapted to the conditions existing on the exposed hills of our California ranges.

The Dakota vetch (Lotus Americanus), sometimes called Spanish clover, will grow on much drier soil. Although it is only an annual, it becomes quite bushy under favorable conditions, producing a quantity of herbage. In some parts of the State it is highly prized by stockmen, chiefly because it grows during the summer months when other feed is scarce. It, therefore, seems that, although Torrey's vetch may be valuable for forage in a few favored localities, the Dakota vetch would probably give better satisfaction in most places.

THE POULTRY YARD.

Feeding and Leg Weakness.

To the Editor:—As I am a subscriber to your paper, and see many questions answered, I thought I would ask you one in regard to geese. I have been raising geese quite extensively for many years, but have never been troubled as I have this year. They have the same feed, the same field to roam, and get their water from a good well, always used before. Still, when they get about two months old they get lame and seem to be in such pain when they try to walk that they fail to attempt to walk at all in a week, and seem helpless. Still, if feed is put before them they eat heartily. Could you enlighten me and give me a remedy? Whatever the disease is it seems contagious.—H. E. J., Napa.

To the Editor:—Leg weakness in fowls is often caused by improper feeding—too much corn and fat forming grains and not enough muscle forming food. Oats in some form are excellent to prevent this trouble in young and older fowls. The lack of animal food is sometimes a cause of leg weakness. An authority on ducks and geese says: "If the fowls are attacked by leg weakness, feed them more bulky food—bran, ship stuff, etc. Give them chopped vegetables. Stop giving them corn until they are strong again. Then give it in moderation." A. W. R.
Napa, Cal.

THE VETERINARIAN.

Milk Fever—The New Air Treatment.

From Circular No. 45 of the Bureau of Animal Industry, U. S. Department of Agriculture.

Of all known methods of treating milk fever, the injection of sterile atmospheric air into the udder is by far the most simple and practicable as well as the most efficacious and harmless one at our disposal, and only occasionally requires the concurrent use of medicinal treatment.

For a considerable length of time the entire value of Schmidt's treatment was considered to be the antitoxic action of potassium iodide, and soon numerous investigators began injecting various other antiseptics with equally good results. Sterile water was tried with no increase in the mortality, and it was therefore considered that the distention of the udder was as important a factor as the antitoxic action of the iodide of potash. Continuing along these lines, Kortman used antiseptic gases (etherized air) with beneficial results. Oxygen was then tried by Knusel with increasing success and the mortality in the experimental cases virtually disappeared. The apparatus for treating with oxygen and etherized air, however, is expensive and cumbersome, and this greatly limits their use by the average practitioner. To Anderson of Skanderborg belongs the credit of first having made use of atmospheric air. He first injected it along with sterile water and then by itself. The results were astonishingly successful. Thus Schmidt reports that out of 914 cases treated in Denmark 884, or 96.7%, were restored to health. The record of 140 of these animals shows that recovery occurred in the average time of 6⅔ hours. Of this number twenty-five cases required a second injection, while in three of the latter number it was necessary to give a third treatment before they were able to get upon their feet. The treatment is also practically harmless, as the statistics of the above mentioned 914 patients show that only one cow was affected with a severe attack of mammitis after this treatment, while in four other cows a milder inflammation of the udder was apparent. Equally good results have likewise been obtained in this country.

The method of injecting filtered air into the udder is easy of manipulation, requires but little time and is readily accomplished by means of a milk fever apparatus, which consists of a metal cylinder, sterile absorbent cotton, to which a rubber bellows and another rubber air reservoir are connected by rubber tubing with a milking tube. Within the metal cylinder is a wire net, which prevents the obstruction of the outlet of the chamber by holding back the sterile cotton. Absorbent cotton impregnated with carbolic acid (carbolized cotton) or other medication can be purchased from the drug trade in most localities, and is better, though slightly more expensive, than the plain cotton.

Previous to making the air injection, the hands of the operator should be thoroughly cleansed and the udder should receive the careful antiseptic treatment. Soap and water should be applied to the teats and udder, following which they should be carefully disinfected with a 5% solution of carbolic acid (three tablespoonfuls of pure carbolic acid to one quart of water). A clean towel should then be placed under the udder to prevent the teats from coming in contact with dirt or filth of any kind. The milking tube, before it is placed in the teat, should have been perfectly sterilized by boiling for fifteen minutes, with the lower hose and milled cap of the cylinder attached, and the apparatus wrapped in a clean towel, without touching the milking tube, to prevent contamination before use. If the apparatus has been subjected to this treatment shortly before, and it is desired to disinfect only the milking tube, the latter may be placed in a 5% solution of carbolic acid for five minutes. It is then carefully inserted into the milk duct of the teat without emptying the udder of milk. Air is now pumped from the bulb acting as a bellows into the reservoir, and thus a continuous flow of air is forced through the filtering chamber and into the udder. Slight massage or kneading of the udder will cause the innermost recesses of the milk tubules

to become distended with the injected air. After the quarter is well distended and sufficiently tense, the milking tube is removed, care being taken to prevent the outflow of air by having an assistant tie a broad piece of tape about the teat at the time the milking tube is withdrawn. The same treatment is repeated in the other three teats until the udder is satisfactorily distended. In case the air becomes absorbed and no improvement is noted within five hours, a repetition of this treatment should be made under the same antiseptic precautions as at first. The tape should be removed from the teats two or three hours after the cow gets on her feet, the constricting muscles at the tip of the teats being now depended on for retaining the air. In this manner air may be left in the udder for twenty-four hours, and, when recovery is assured, it should be gradually milked out. It is needless to say that the calf should not be permitted to suckle during this period.

Inflammation of the udder (caked bag) is avoided if the milking tube is thoroughly disinfected before each application, and if the mammary glands and the hands of the operator have been properly cleansed. If the apparatus is kept in its case free from dust and dirt, the absorbent or medicated cotton in the metal cylinder will efficiently filter enough air to distend the udder of six cows. After this number has been treated it is advisable to replace the old cotton with a fresh sterile supply, which should be placed loosely into the cylinder.

While this method of treating milk fever is a comparatively easy one for a layman to adopt, he can not be expected to have the same successful results as those obtained by a skilled veterinarian, and it is therefore advisable that the services of such a veterinarian should always be obtained in those districts where it is possible. In many cases it will be found that the injection of air into the udder will be sufficient to combat the disease without any contemporary treatment, but it is always advisable to study the symptoms of each individual case and administer in a rational manner the indicated medicines.

Prevention.—Up to within recent times the most stringent measures were resorted to by every careful dairyman to prevent the development of the disease in his herd. However, since the treatment of the present day has so greatly reduced, and even in some cases obliterated the mortality, prevention is no longer such an important problem, and, therefore, preventive measures which have a severe and lasting effect upon the animals should be abandoned from an economic standpoint. It has long been advocated to starve all suspected animals for two weeks prior to the end of their terms of gestation. It is frequently noted that this has an injurious effect upon the milk flow of the animal, from which it may require several weeks for her to recover and gain her normal output of milk. This measure is no longer considered economic, as it is better to have cows attacked with the disease once in a while—the mortality being less than 5%—than to decrease the flow from every heavy milking cow for from one to three weeks after parturition by starving the animals during the antiparturient state.

A method which is not quite so sure of reducing the plethoric condition of the cow, but which nevertheless proves very efficient and is without the slightest permanent injurious effect, is the administration of 1 to 1½ pound of Epsom salts two or three days prior to calving. In case this has been neglected and a well-nourished, heavy-milking cow has passed through an easy non-exhausting parturition, the administration of the salts after the labor is over should by no means be neglected. Blood letting has also been advocated, but there is always the danger of exciting the blood-making organs to excessive activity, and thus reducing the depleting action of the measure to a minimum. It should therefore be resorted to only when the cow is extremely fat, is a heavy milker and has had one or more attacks at previous parturitions. The blood should be drawn from the jugular vein and continued until the pulse softens perceptibly, or about 1½ pint for every 100 pounds of the animal's body weight.

Another very good preventive measure, and one easily carried out, which is frequently overlooked, is to give the cow plenty of exercise up to the time of calving. Many animals are allowed to run continuously on pastures from the time they go dry until a week or two before calving, when they are transferred to the stable without any subsequent exercise, which is very conducive to the enriching of the blood and the development of the disease.

The most recent preventive treatment suggested is in line with the favorable results obtained by the intramammary injection of air. It consists in allowing the susceptible cow to retain in the udder for twenty-four hours following parturition all the milk except the small quantity required by the calf, which should be taken, if possible, from each quarter. The distention of the udder naturally follows, as in the air treatment, and acts as a preventive against milk fever. In the Island of Jersey and at the Biltmore farms, N. C., where this practice is common, the number of milk fever cases has been greatly lessened. General sanitary conditions should also be looked after, such as the supply of pure air and clean stabling, with plenty of clear, cool water and laxative foods, like grasses and roots.

This milk fever apparatus can be had from dealers in dairy and veterinary instruments and supplies, and should be freely advertised by them, so that all dairymen may be ready to apply the new treatment.

HORTICULTURE.

Pear Blight in Northern California.

By Prof. Ralph E. Smith of the University of California.

In view of the numerous reports of the occurrence of this disease during the present season, some observations based upon quite a thorough inspection of the pear-growing districts of the Sacramento valley and adjoining country may be of interest at this time to those connected with the pear business.

The Disease.—"Pear Blight" has been frequently described in the agricultural press and elsewhere. Methods of treatment so far as known have likewise been published in many different forms. Were present knowledge sufficient to cope successfully with the trouble, nothing would remain for the grower but to apply the proper remedy as recommended, as he does at present for numerous other orchard pests.

The "blight," as commonly described, is produced by a minute germ, or species of bacteria, which enters the tree through the blossoms in spring, being brought there by bees and other insects, and by its multiplication spreads down to the twig and branch through the inner bark, causing the death of the parts and soon ruining the tree. The twigs dry up and turn black with the leaves fully developed upon them, and usually the dead and dried blossoms may also be seen on the ends long into the summer.

The usual remedy consists in cutting off the blighted twigs well below the dead part as soon as the disease is detected, in order to check its further development. Sterilizing the instruments between cuts is also advised to prevent infection from this source. By thorough work in this way the blight has, in some sections of the country, been satisfactorily controlled.

The Blight in Northern California.—That the true blight, identical with that which has devastated the pear orchards of Fresno, Kings, Tulare and Kern counties, has occurred this year in all the counties of the Sacramento valley there is no question. The writer has personally visited numerous orchards in Solano, Yolo, Colusa, Glenn, Tehama, Shasta, Butte, Yuba, Sutter, Placer, Sacramento and Contra Costa counties, and found an abundance of the typical diseases scattered all over this section of the State. From Vacaville to Colfax and from Martinez up to Anderson the blight is present in numerous orchards. In a few the disease has not yet appeared, in some it is very severe, but in most cases the trees are slightly affected in a branch or twig here and there. In this year's crop no great loss will result; scarcely any in most cases; the danger is for the future.

Pear blight has been previously reported in the Sacramento valley from time to time, yet it is quite doubtful whether the true "fire blight" has occurred before this year in that locality. Many cases of "die back" and all sorts of troubles have been called blight, and this is particularly the case in the present season. There is one form of so-called blight in particular which has been mistaken for the genuine disease, producing a blackening of the larger limbs in spots and streaks much like bad cases of the typical blight and causing considerable damage to the trees, but yet quite distinct from the other. In 1901 there appears to have been something of an epidemic of this form of blight. The writer has taken pains to look into all cases where fire blight was thought to have occurred in previous years and in every instance something of a different nature was found.

On this account the widespread occurrence of the disease this year is quite remarkable. It started in the blossoms in the typical manner, yet it is difficult to see how the bees and other insects could have carried the infection so far into new country, and why they should have done this so generally during this one season and not before. The local distribution of the disease is also peculiar, some of the most affected orchards being closely surrounded by others showing no blight whatever, while again trees in isolated locations are badly affected. Many other peculiarities in the development of the disease have also been noticed, all going to show that much is yet to be learned concerning the nature of pear blight in California. The spread of the disease, for instance, while starting in the blossoms, according to the usual manner, appears to be by no means limited to this, but breaks out, sometimes very abundantly, in a manner which cannot be easily explained. The whole subject needs thorough and immediate investigation in order to protect the pear industry from this threatened danger.

Treatment for the Blight.—Pear growers generally have been vigorously cutting out the affected twigs with varied results. A few orchards were seen which had been gone over five, six and even seven times, and it must be said that in these extreme cases the blight appeared to be worse than ever. In other cases one cutting served to eliminate the disease. Again, numerous cases occur where no cutting has been done and the blight appears to have checked itself for the season. The cutting has been done with various degrees of thoroughness and proper antiseptic precaution; but in general the case appears to be that, cutting or no cutting, the disease has continued to develop in some orchards and not in others. It is an open question whether this summer pruning has on the whole been of much benefit as carried on in the average orchard. The most effective treatment known at present consists in thorough and severe cutting in the fall; but, from experience in other parts of the State we know only too well the insufficiency of the cutting method to save the trees. What is most needed is a better knowledge of how the blight spreads under local conditions, in order to control it with any satisfactory degree of success. It is, of course, not impossible that the disease may subside of itself to a greater or less extent, having appeared in so peculiar a manner; yet this is too uncertain to be depended upon. On the other hand, there is the possibility of its becoming as bad in the Sacramento as in the San Joaquin valley, in which case we know that the present methods of treatment will not suffice to save the orchards. A systematic investigation of the subject, covering the important pear growing sections of the State, would doubtless throw much new light upon the subject and possibly result in a satisfactory remedy or method of treatment being developed. Such work can not satisfactorily be left to individual growers, districts or counties, but should be carried on in the interest of the whole affected region for best results. Until this is done the pear blight will constitute a constant menace to the most valuable fruit industry of northern California.

Ralph E. Smith.

Agricultural Experiment Station, University of California.

Grafting to Bridge Disbarking.

To the Editor:—In your issue of the 9th inst. you recommend to "Reader, Knights Ferry," a way of saving his disbarked fig trees. If not too late, it might pay him to try a way I saw in the Jardin des Plantes in Paris a few years since.

I saw a tree—I do not remember the kind—some 8 or 10 inches in diameter with the bark entirely removed for a space of 1 foot or so, beginning about 3 or 4 inches from the ground, having four connections that looked like natural branches, connecting the bark below the denuded space with the bark above it. It looked so strangely that I talked with the gardener about it, and was told that it had been done simply to show that a girdled tree could be saved in that way; that this tree had been disbarked and treated in this way two years before, and certainly it looked as thrifty as if nothing had ever happened to it.

I asked him how he did it, and he told me that he disbarked the tree and took four little branches of the same tree that were about ½ inch in diameter and long enough to reach to about 3 inches below and 3 inches above the bare space, and side grafted them in, thus connecting the roots with the foliage.

When I saw them these scions—as they might be called—were between 1 and 2 inches in diameter. The denuded space was still disbarked, but whether the gardener had purposely kept it so for show, or whether it would have naturally remained that way, I do not know.

If I had trees in the condition of your correspondent's I should certainly try to save them by this method, for I believe that if properly done they could be saved, if it is not too long since they were disbarked. He could try this method in connection with the one you suggest, if he chose to do so, and thus have a double chance of success.

Los Gatos, July 10. James C. Strong.

The suggestion is perfectly pertinent and practicable, but less likely to succeed with the fig because of the greater danger of drying out and failure of the scions. With most trees such in-grafting succeeds easily. Nor is it imperative that it should be done immediately after the injury, for the bark below and above the girdle will remain full of sap.

The Culprit Has Passed On.

To the Editor:—I forward you a few specimens of Sugar prunes which show the work of some kind of borer. Will you kindly inform me through the Pacific Rural Press what the pest is, and the best way to fight it before it works on the next crop.—Reader, Morgan Hill.

No insects are now present, but the manner of work on the fruit indicates an earlier visit by the larvæ of some tortricid moth. This trouble has not yet appeared in quantity sufficient to occasion alarm. If it should do so the treatment would be the same as for the codlin moth, the strength, however, being gauged to the arsenical endurance of the prune tree, which is less than of the apple and pear.

Agricultural Review.

Alameda.

APRICOTS.—Oakland Enquirer: Work has begun in earnest in the apricot orchards near Niles; very little fruit will be dried, as most of the big growers have sold to the canners green. The prices reported are from $27.50 to $35 a ton, orchard run, f. o. b., and boxes supplied, the prices varying according to the quality of the fruit in the orchards. Some of the earliest apricots shipped on the market have netted 3 cents a pound. In some orchards the "brown rot" is making sad havoc. It is a new disease and threatens to be very destructive to ripening fruit.

HAY FARMERS ORGANIZE.—Livermore Herald: About sixty farmers responded to a call for a meeting at Sweeney Opera House Saturday. H. M. Christensen called the meeting to order. H. R. Nissen was elected president and J. D. Collins secretary. In taking the chair Mr. Nissen reviewed local conditions from the standpoint of a hay farmer and argued that the future of the industry depended upon the farmers standing together in a demand that the superiority of their hay be recognized by a good price. Slips of paper were distributed through the audience with the request that each farmer send up to the secretary's desk the amount of marketable hay raised in 1903 and 1904, with a view to ascertaining the amount of hay in the valley as compared with last year. A majority of those present complied with the request, and it was found that the amount of hay in the valley is practically the same as last year. Most of the farmers reported a shortage; but this was made up by grain farmers, who cut little or no hay last year but reported a large amount this year. A motion by J. D. Collins that it be the sense of the meeting that first-class wheat hay be held for $12 a ton was passed by unanimous vote. On motion a committee, consisting of H. M. Christensen, John Foblitz and J. D. Collins, was appointed to confer with the hay farmers of Hollister, Tres Pinos and Salinas for the purpose of ascertaining the amount of hay in those districts and their influence on the market.

Butte

WORK ON SEED GARDEN PROGRESSING.—Chico Enterprise: The work of preparing the seed garden for the season is going rapidly on, although there have been many obstacles in the way of hurrying the construction of the buildings. Between thirty and forty varieties of fig trees which were planted there this spring are doing well and some of them have made a growth of 2 feet. A list of nearly 200 varieties of plants have been received from the Department of Agriculture, and these will be turned over by Mr. Dorsett to D. G. Fairfield, explorer for the Department of Agriculture of the Government, who will look over the list and decide which ones shall be given a place in the seed farm. Fairchild is expected to arrive in Chico about the 15th of July, and he will remain here some time looking over the new garden and planning with Mr. Dorsett for its future development. He has been in the employ of the Government for some time and has traveled all over the United States in the interests of his department, and is familiar with every plant that could possibly be raised in the garden.

Colusa.

LABOR SCARCE IN BEET RAISING.—Sacramento Union: The farmers who reside in the vicinity of Colusa, where the new sugar beet factory is to be established, are in a quandary as to the best method to be pursued in obtaining the necessary help to care for the prospective crop, and many of them are already in search of Japanese and Chinese contractors who will assure them of sufficient labor to raise a crop of beets. It is estimated that at least 5000 acres of land planted to beets will be required to keep the factory in operation. Morris Brooke, secretary of the Chamber of Commerce, says: "I understand that an attempt is being made to employ Japanese and Chinese labor for this purpose, and in my opinion this is all wrong. I am informed by C. W. Tuttle of Colusa that he is ready to rent good virgin beet land to white farmers for one-half the rent they are obliged to pay for the land in other beet sections, and I know that other large land owners stand ready to make similar offers. Now, in my opinion it would be a matter of little difficulty to persuade small farmers to go to that section of the valley, rent from twenty to sixty acres each and raise beets. If that could be done, it would greatly aid the prosperity of this section, which will not be greatly aided by the introduction of additional Japanese and Chinese labor."

Fresno.

MUCH FRUIT BURNED.—A Fresno dispatch, under date of July 8th, states that a fire on the railroad reservation caused a loss estimated at $75,000. The packing house of the Eagle Packing & Storage Co. was burned to the ground. The loss is principally in raisins and dried fruit, with which the packing house was stored. One hundred tons of dried apricots had been received; 600 tons of raisins of the Association, valued at $48,000 and insured, were consumed, and the apricots were valued at $10,000. A few days ago 300 tons of fruit had been removed to make place for the coming in dried apricots. There was stored also considerable other dried fruit.

Kings.

ANTHRAX IN SHEEP.—Hanford Journal: The bands of sheep belonging to Louis Hansen, and which are on his place, 9 miles southwest of Hanford, have been afflicted with a disease which Dr. Frank Griffith, the county live-stock inspector, pronounced anthrax. He was unwilling, however, to depend entirely upon his own judgment, and, upon his request, Dr. A. R. Ward, a prominent bacteriologist of the State University, arrived here Monday. Dr. Twining, the well-known bacteriologist of Fresno, and the two gentlemen, accompanied by Dr. Griffith, went down and inspected the herd. They took lenses and other apparatus with them, and after a close inspection of the blood from the diseased sheep, stated that the disease is undoubtedly anthrax. The doctors advised that the sheep be moved from their present quarters and that they be vaccinated at once, recommendations which Mr. Hansen began complying with. Dr. Griffith states that the disease is apparently confined to the locality where Mr. Hansen has his sheep, and it was brought there from Creston, San Luis Obispo county, in herds brought over here to pasture, some two years ago. There has always been evidence of the disease here, ever since John Sigler, a well-known farmer south of Hanford, contracted anthrax two years ago while handling sheep there and came near dying as a result. Dr. Griffith believes that if prompt action is taken the disease can be stamped out.

GRASSHOPPERS AND BLACKBIRDS.—Hanford Journal: Albert H. Brown states that grasshoppers have appeared in great numbers in the Summit lake country, but that the blackbirds jumped onto them and did the hopping pests up in short order.

Los Angeles.

LARGE APRICOT CROP.—Riverside Enterprise: G. H. Waters & Co. of the Pomona and Ontario canneries have commenced operations at Pomona and expect to can and dry 1000 tons of apricots and 1000 tons of peaches this season. It will be necessary to run the plants day and night in order to handle the fruit. Apricots are bringing from $6 to $25 per ton. Mr. Waters states that it is his opinion that the apricot crop of southern California will be from one-third to one-half larger than that of last year. The peach crop will be short all over.

Mono.

SHEEP TAX.—Bridgeport special to Sacramento Bee: Over 300,000 head of sheep are being pastured in Mono county this year. Mono levies a tax of 5 cents per head on all sheep, consequently this will bring over $15,000 into the county treasury.

Monterey.

STOCKMEN RUNNING GREAT RISK.—Salinas Index: It is apparent that some of the stockmen of the southern part of the county are violating the federal quarantine law and have been running cattle and sheep across the line of San Luis Obispo and Monterey counties, which constitutes the federal stock quarantine. The federal authorities are ever on the alert for such violations of the law, and at a time least expected they are liable to put in their appearance and the violators will find themselves in serious trouble.

POTATOES SCARCE.—Strange as it may seem, it is nevertheless a fact that in this, one of the greatest potato raising districts in the world, there is a potato famine. It is not because there was a light harvest last fall, for the acreage was larger than ever before, while the yield was excellent, but the East demands the product, and we must send away for Salinas Burbanks.

Orange.

APRICOTS AT EL TORO.—Santa Ana Blade: Captain George R. Huddy of El Toro reports that the season's apricot crop of that section will aggregate between 400 and 500 tons. El Toro has long enjoyed the reputation of growing the finest apricots in Orange county, but this year it is said the quality is not quite up to the average, although the fruit is good by comparison with that grown elsewhere. A. C. Twist, the largest grower, has contracted with the California Canners' Association to supply seventy-five tons to be sent to Los Angeles. A further order may be filled for shipment to Los Angeles, but the most of the apricot crop is being dried.

GROWERS DISSATISFIED. — Anaheim Gazette: Apricot growers of Orange county are dissatisfied over the low prices offered by buyers. There is a good crop and quality up to the average. Growers believe they should receive much higher prices, as the crop is said to be short all over the State, with the exception of Orange county. Growers are now only offered about $16 a ton, and many of them hold that they should receive at least from $30 to $35 for the entire crop, orchard run. Some go so far as to state that there is no opposition among the buyers and that they have an understanding as to the amount they will pay the growers. Northern California is said to have only about 50% of the average crop. Growers state that another reason why they should receive higher prices is because there is practically no peach crop this season.

OUTLOOK FOR HAY.—So far as can be ascertained from casual inquiry there is more hay in the county this year than last, and the crop is of much better quality, but the prices are higher and the limit in this respect has not yet been reached. Letters have been received from dealers in the north offering to ship hay here at a figure far below what some people are holding hay here for, and in case the figure goes much higher here hay may be shipped in from the north. Alfalfa is in fairly good stock, but prices are pretty well up for baled hay and not much is offered for less than $12, although loose hay can be bought for all the way from $8 up.

Riverside.

SOME CANTALOUPES.—Oxnard Sun: J. A. Gordon, who went down to the Indio country last spring to become an amateur melon raiser, has beaten the record. He sent a crate to Oxnard, one of 225 crates picked the 21st day of June from a ten-acre field. This is the largest number of crates ever picked from a field of this size in one day in that country, 100 crates being a good average for that much ground. The estimate yield for that ten acres this year is 2000 crates, which is nearly double the number usually gathered from such a field.

San Bernardino.

HIGH PRICES RECEIVED.—Sun: John Cleghorn, one of the owners of the Independent packing house, has received returns on the oranges he bought of T. W. Frye some weeks ago, when he gave for field boxes the top notch price for the season. The average for the packed boxes, which numbered something like 250, was $4.15 for the fancy and $3.60 for the choice. This is the best sale made of Highland fruit this year, and though Valencias bring a good price each season, it is doubtful if this sale will be duplicated this season.

SPRAYING OPERATIONS. — Times-Index: Horticultural Commissioner Pease has returned from a trip to Oak Glen, whither he had gone to note the result of spraying operations last year and see whether it would be necessary to spray the apple trees at this season. He is well pleased with the result of his observations, saying that the apple trees are in a healthy condition. Concerning the pest popularly known as "red spider," an insect affecting orange trees, for the extermination of which two preparations were used in spraying last year, Mr. Pease noted that salt, lime and sulphur were much more effective than the distillate, but that good work has been accomplished with both preparations. He regrets that the distillate is not as efficacious as a spray for the insect in question, owing to the fact that it is much more readily prepared than the salt, lime and sulphur, but says that he has not yet completed his experiments in that direction.

San Diego.

HAY BALING.—Imperial Press: Well informed parties estimate the number of hay presses at work in the Imperial valley at about thirty-five. These employ an average of about eight men to each press, making, say, 280 men engaged on this work alone. The product is about twelve tons a day and the average run of a press about three months in the year. So the thirty-five presses, at twelve tons a day, each aggregate 420 tons a day, 2520 tons a week, and 32,760 tons for the thirteen weeks they are estimated to average. The value of this hay varies according to season and market. A good price is expected later in the season, and much of it will be held with the hope of a profitable market on the coast. The wages paid the balers is $1.75 to $2.50 a day.

Santa Barbara.

BEANS A FAIR AVERAGE.—Lompoc Record: The bean growers in the valley, and quite an area is given over to this cereal, say the land is in fine condition and they expect an average yield, and being what is termed a contract crop for seedmen, is expected to pay a fair return. This method, the farmers claim, gives assurance of speedy returns at a fixed price, and the average yield, about the same as the field bean once so common in California.

PLENTY BARLEY, LITTLE MUSTARD.—There has not been in many years so much of barley and so little of mustard sown in this region and it is most fortunate that it is so. Had mustard been sown the crop would have practically been a failure, while the barley where light will pay in feed for stock, and where seeded will pay to harvest, and there are many very fine crops observable in all directions. The danger in a superabundance of this crop, which has been planted in greater quantity throughout the State than usual, is its prospective low price.

Santa Clara.

FRUIT PRICES.—San Jose Mercury: All of the canneries of the valley are now running on apricots and peaches. According to growers, from $40 to $50 per ton for cling peaches, according to quality, is the average price paid at the present time. Apricots are selling at from $25 to $37.50 per ton, the latter figure being obtained for good quality fruit running eight to the pound. The canneries quote figures ranging from 10% to 20% below the above figures. The peach crop of the valley promises to be better this season than for some years, both in quantity and quality.

SUGAR PRUNE.—Journal: We have a twig taken from a Sugar prune, grafted one year ago last spring. On this twig can be seen fifteen finely developed prunes of splendid size and color, all within a space 3 feet in length. It came from the fine fruit farm of George M. Brown, in the Jefferson district.

Sonoma.

PRUNE GROWERS POOL THEIR CROP.—Healdsburg Enterprise: The meeting of prune growers held Saturday for the purpose of forming a pool of their product was well attended, possibly fifty of the largest prune growers in the Russian river valley being present, and interest in the move was keen. E. B. Ware was elected temporary chairman and E. B. Snook secretary. It was decided to organize, which was done by the election of the following parties as directors: W. F. Griffith, W. L. Cunningham, W. F. White, Fred Brown, J. A. McMinn and C. W. Weaver. Before the adjournment of the meeting the total amount of prunes signed was over 1000 tons. Since the meeting, however, many more have signed the agreement, so that the total signed for is over 1200 tons.

Sutter.

GRAIN YIELD POOR. — Independent: Harvesting in most parts of Sutter county is nearing completion and reports of yields are not very flattering. Along the tule border the yields of oats and barley is from twelve to fifteen sacks and is better than on the higher sections of the county. Ten sacks for barley on the high land is about the average. Wheat does not make such a good showing. Fields that were expected to turn out ten and twelve sacks are yielding five and six. The kernel of both the barley and wheat is considerably shrunk, and hence the quality is bad.

Tulare.

GOOD YIELD OF GRAIN.—Register: J. A. Harrison, who is farming on the Cartmill place, says the grain in some spots will go about twenty-two sacks to the acre. However, it is not all like that, but will probably average from twelve to fifteen sacks all through.

Horse Owners! Use

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THE LAWRENCE-WILLIAMS CO., Cleveland, O.

The Home Circle.

A Water Lily.

Oh, star on the breast of the river.
Oh, marvel of bloom and grace,
Did you fall straight down from heaven,
Out of the sweetest place?
You are white as the thoughts of an angel,
Your heart is steeped in the sun:
Did you grow in the golden city,
My pure and radiant one?

Nay, nay, I fell not out of heaven.
None gave me my saintly white;
It slowly grew from the blackness
Far down in the dreary night,
From the ooze of the silent river
I won my glory and grace:
White souls fail not, O, my poet,
They rise to the sweetest place.

—Mary Frances Butts.

The Old Toll Gate.

To and fro, to and fro,
The old gate swings across the way.
Rich or poor, high or low,
It holds all folk, and bid them stay
Till toll is paid by each and all,
In winter, spring, summer or fall.

To and fro, to and fro,
On rusty hinges doth it squeak—
Back and forth as doth flow
The tide of traffic. And each creak
Is challenge for the old highway,
That he who passes there must pay.

The Claim Jumper.

"What's that over thar, Bill?" asked Joe Scaggs, pointing toward an object that had made its appearance on the prairie a mile to the south. Bill Barnum looked in the direction indicated.

"A house, or I'm a livin' liar!" exclaimed Bill with emphasis. "An' on Dick Barber's claim, too!" he continued, with a gesture of excitement.

"Do you suppose he's goin' ter jump Dick's claim?" asked Joe.

"I dunno," answered Bill "I guess he's not stoppin' out thar fer his health. If he is, I'm thinkin' he'll soon go 'way on the same arrant, won't he, Joe?"

"You bet!" sanctioned Joe. "But the way ter find out is ter go over an' see; an' while ye air cookin' supper I'll ride over an' interview the stranger."

With this he walked from the door of the half-board, half-dugout shanty where the two had been standing, and approached a small barb-wire corral near by, where he mounted a powerful cayuse and galloped away across the stretch of windswept prairie that separated him from the distant shanty on the prairie to the south.

A few moments' ride brought him to the front of a little dugout shanty that nestled in the side of a hill at the edge of a small ravine. Just around the slight elevation in the prairie stood a covered wagon or "prairie schooner" as they are familiarly termed.

A pair of sorrel mules tied to the rear end of the wagon were busily engaged in eating their evening meal of corn and dry grass out of the wagon box. A man came out of the shanty with a frying pan in his hand and held it over a fire in front of the dwelling.

"Hello thar!" exclaimed Joe, angrily. "What in the blazes air ye doin' hyar?"

The stranger turned and looked at the visitor a moment, and then said quietly,—

"Fryin' meat."

Joe's anger rose.

"Oh, ye air, air ye? Wal, as ye seem ter be so smart mebbe ye kin tell me whose claim ye air squattin' on."

"I reckon I ken; h'it's mine."

"H'it is?"

"That's the way h'it looks ter me."

"Look hyar, stranger!" said Joe Scaggs, clinching his fist, "me an' my pardner over thar," jerking his thumb over his shoulder in the direction of his own shanty, "air holdin' this yere claim fer Dick Barber who's comin' out hyar in the spring from Injiany, an' we'll jist give ye tell ter-morrer to git out a' this!"

"'Taint long enough time," said the stranger, deliberately turning over a liberal slice of "muddling" that smoked in the frying pan."

"How long do ye want?" questioned Joe, his wrath somewhat mollified by the stranger's evident intention of leaving.

"How long does a man have ter live on a claim before he ken git a deed fer h'it?" was the reply of the stranger.

"Five years," replied Joe.

"Wal, then," continued the stranger, "make h'it five years an' h'it's a bargain."

"You impudent skunk!" roared Joe, now thoroughly aroused by the stranger's cool manner, "fer a cent I'd wallup the ground with yer onery carcass."

"Yas, ye might undertake h'it fer a cent, but ye'd never lay up any money at h'it," was the answer, as he set the frying pan down and confronted Joe Scaggs.

Joe now moved his hand toward his pistol, but hesitated.

"Look hyar," said the stranger. You order me ter leave this claim. Is h'it yourn?"

"No, not exactly mine; but we're holdin' h'it fer a friend, me an' my pardner air. We've got the two lyin' north o' this, an' we're holdin' this fer Dick Barber, an' we're goin' ter hold h'it."

"All right," he answered. "I guess h'it won't need much holdin.' H'it'll be hyar when yer friend comes—so will I. If h'it's yer claim I'll git off; but ye can't hold h'it fer somebody else. I know the law."

"Yes, ye may know the law, but ye don't know our law. We've made a special law fer sich fellers as ye, an' we're goin' ter go by that, an' don't ye fergit h'it."

"Wal, when ye force me ter go, I'll go—not before."

Angry words rose to Joe's lips, but he hesitated. The cool, indifferent manner of the claim-jumper puzzled him.

He was about to speak when the tramp of horse's feet sounded in the grass behind him, and Bill Barnum rode up, a Winchester rifle swung across his saddle.

"Thought mebbe ye'd have trouble," he explained, "and that I'd come over an' see ye out."

"Bill," said Joe, gaining courage at the arrival of re-enforcements, "he hain't a-goin' to leave."

"Won't he?" Bill answered, bringing his Winchester down on the stranger. "Now ye load up yer traps an' git."

"All right," he answered doggedly. "You've got ther advantage o' me, I'll go, but I'll git even with ye some time, see if I don't;" and he began tumbling his effects together.

Bill and Joe watched him while he piled his traps into the wagon.

"Stranger," said Bill, "we don't want ter be hard on yer, an' we don't mind payin' ye fer yer little shanty, seein' as ye can't take h'it along."

"No, h'it ain't worth nothin,'" was the answer. "I don't mind givin' a good neighbor a little thing like that."

"Wal, Bill," said Joe, "h'it's gittin' late an' we'd better be gittin' back ter the shanty an' lookin' after our supper."

"Supper!" exclaimed Bill. "Thar hain't nothin' fer supper nor breckferst either, unless that onery cuss gits back from Atticy ternight."

"Don't say that," answered Joe. "H'it makes me hungrier 'an a b'ar ter hear ye speak like that. Hain't we got nothin' ter eat?"

"No, nothin' but a few pieces o' hard bread an' a bit or two o' meat. That onery cuss, John Biggs, that we sent after grub to Atticy 'll git drunker 'an a 'b'iled owl an' not come back till we go after him, like as not."

With this they turned their horses around and rode away in the direction of home, leaving the stranger standing in silence looking after them.

Ike Dover, for such was the stranger's name, turned and entered his shanty.

"Wal, h'it means pull out, I reckon," he muttered; "but I'll jist stay hyar till mornin,' any way."

The sun had gone down behind a bank of tawny, purple clouds, and an ashy pallor overspread the sky.

"Goin' ter have bad weather," observed Joe Scaggs, as they rode through the fast gathering darkness.

Late that night Bill punched Joe in the rib with his elbow and said,—

"Joe, h'it's gittin' colder 'an all git out. We've got ter git up an' find some more covers. Gee whiz! listen ter that wind!"

Bill got up and struck a light and put on his clothes.

The weather had suddenly grown intensely cold and the wind was roaring across the prairie and sweeping through the dead grass with a sharp, hissing sound.

Bill opened the door and looked out.

A great gust of wind swept into the room, whirling a cloud of snowflakes with it and extinguishing the light.

"A blizzard!" exclaimed Bill, slamming the door and relighting the lamp.

Joe had also got up and was putting on his clothes.

"We must see ter the hosses," he said, drawing on his heavy boots. "They'll freeze ter death in that shed if they hain't blanketed."

He opened the door and went out, and in a few moments returned.

"The hosses air gone!" he exclaimed; "broke loose an' been driv' away by the blizzard."

"One uv us must go after 'em," exclaimed Bill. "H'it won't do to lose 'em. They'll die in this storm if they don't find shelter."

"Yes, an' you'd die a dozen times 'fore ye'd find 'em in this storm."

"Poor animals!" exclaimed Bill; "but it can't be helped."

Bill kindled a fire in the little sheet-iron stove in the corner.

The air was growing colder and colder every moment and the circle of heat around the stove grew smaller and smaller with each surge of the wind as it shook the loose boards on the roof and sent the sleet and snow hissing through the crevices.

The two men drew their chairs near the stove after replenishing the flame from a pile of coal in the corner of the room.

Morning came at last, gray and desolate, with blinding clouds of snow and and sleet sweeping across the prairie. The storm showed no signs of abating, but was increasing in its fury.

"Joe," said Bill, breaking the silence, "nobody can't come from Atticy terday; an' the pervisions—thar's nothin' in the house ter eat."

Joe got up and looked out at the small window.

"H'it's as ye say, Bill, thar can't nobody come from Atticy terday——" And then huskily, "H'it may be a week 'fore they can.

The two men looked at each other, and each read the other's thoughts

"Thar can't nobody git nowhar now, an' mebbe not fer a week. Bill, we air in a bad fix."

Bill made no reply, but filled a large black pipe, lit it, sat down by the fire and began puffing away in silence.

Joe brought more fuel from the corner and filled up the stove.

The day passed and night came down, and still the storm raged and the snow fell in blinding clouds.

It was at the close of the fifth day, and neither Bill nor Joe had tasted food for four days, and as they looked out across the desolate, snow-covered plain their hearts sank within them.

"Bill," said Joe, huskily, "we can't hold out much longer. H'it'll be more 'an a week 'fore any one could git hyar or we could git away."

"Yas, an' that will be too late," answered Bill, an ashy pallor overspreading his thin face.

The next morning Joe arose, kindled the fire in the little stove and sat down in silence.

Bill did not get up, but remained in bed, a pinched look setting over his features. It was getting late in the afternoon when he called Joe to the bedside.

"Joe," he said feebly, "I hain't got much longer ter stay with ye. This yere cold is freezin' my thin blood an' I'm gittin' weaker an' weaker."

"Come, come, Bill!" said Joe, a great lump rising in his throat. "Cheer up; mebbe som'thin' 'ill turn up; mebbe——"

"'Tain't no use, Joe. We've all got ter go some time. 'Tain't no use in hopin' when thar hain't nothin' ter expect."

Joe made no reply. Stooping down presently, he drew a little box from under the bed and took out a small piece of dry, hard bread and laid it by the side of Bill.

"I save h'it for ye, Bill," he said, turning away.

"No, no!" said Bill, "hit's better fer one uv us ter go 'an both uv us. Mebbe, as ye say, somethin' 'ill turn up, an'——"

A muffled sound like footsteps in the snow came from the outside, and something like the sound of a human voice mingled with the hissing wind.

Joe listened, but the sound was not repeated. He opened the door and looked out.

A few feet from the threshold, half buried in the drifting snow, was the prostrate figure of a man, a large bundle of something at his side. A moment, and Joe was stooping over the prostrate figure. He shook him, but he did not speak. Then by a series of heroic efforts he dragged the unconscious man into the dugout. As he did so, a bundle that was strapped about the shoulders of the unfortunate became detached and rolled over on the floor, displaying a small bag of flour and a chunk of bacon.

"H'it's John Biggs come back!" exclaimed Joe; "an' he's brought enough pervisions ter carry us through, thank God! but pore feller, he's almost done fer!"

He hurriedly stirred up the fire in the little stove, and then, turning to the unconscious man, he brushed the snow from his wan face.

"Bill," he said, starting with surprise, "h'it ain't John Biggs—h'it's the claim jumper. He's saved our lives, Bill, an' after we was goin' ter run him away."

"My God!" exclaimed Bill, struggling feebly out of the bed, new strength coming to his feeble frame. "We must save him, Joe, if he ain't already dead. We mustn't let him die."

The two men, shivering with cold and weak from hunger, worked as they never worked before. By their combined efforts they lifted the poor frozen squatter from the floor and laid him tenderly in their own bed.

He opened his eyes and muttered something in an incoherent manner. The two men bent over him and listened.

"H'it ain't much furder," he muttered. "I hear 'em say they didn't have nothin' to eat over thar—an', Ike Dover, h'it's your dooty ter help 'em. No—no—they wur goin' ter run me off—h'it can't be much furder——Oh, if I could only sleep a little—h'it ain't cold now."

Joe took hold of his hands and held them in his own. They were frozen as hard as icicles. He looked at Bill and uttered a groan.

"He can't live, Bill," he said chokingly.

Bill bent over the bed, his face close to that of the dying man.

"Pardner," he said, his voice husky with emotion, "you've throw'd away yer life fer us that didn't deserve nothin' but yer hate. You've frozen them pore hands fer us onery wolves that would 'a' driv' ye way from yer claim. Oh, if ye could only live ter tell me how mean an' onery I've been ter ye——"

Here Bill broke down and wept like a child.

Presently the dying man muttered: "H'it's all right—I see h'it now—thar in the cabin, right ahead——"

And with these words his spirit fled.

For a long time the only sound that broke the stillness of that desolate prairie home was the sobbing of the two men and the hissing of the winter wind.—Waverly Magazine.

Removal of Splinters.

A splinter is a very little thing, but capable of creating a great deal of mischief, discomfort and pain. Every mother of small children should provide herself with a pair of sharp-pointed forceps for this emergency, says the Chicago News. When the splinter is imbedded in the flesh of hand or foot

the point of a small pair of scissors—a manicure pair will very well answer—should be inserted directly over and following the path of the splinter, and a small incision made.

If there be any bleeding stanch it by a little pressure, then open the wound by stretching it a little, and with your forceps pick out the offending object.

When the splinter is under the nail cut a V-shaped piece out of the nail, and with the forceps the splinter is easily removed. Protect the cut made with a little collodion or a finger cot.

Antiseptics Used With Food.

A matter of practical science, to which legislation must be directed much more seriously than has yet been done, was brought before the congress of medicine recently held at Madrid. Dr. Brouardel, of Paris, spoke strongly of the dangers arising from the addition of antiseptics to wine, beer, cider, milk, syrups, butter, fish, preserved fruits and other commodities which are in daily use as a food. It is well known that salicylic acid, salicylate of soda, sulphites, borax, boric acid, formalic and a variety of other chemicals are employed to make the substances in question "keep," the pretence being that they are used in such small quantities as to be innocuous. To this allegation Dr. Brouardel opposed two indisputable facts, determined by analysis and experience: First, that the preservatives employed are used in far larger quantities than the users admit, and, second, that the continued consumption of alimentary substances containing these antiseptic materials, even in very small proportions, becomes gravely detrimental to the human organism, amounting in the long run to slow poisoning. Man's constitution has not been made for the daily elimination of minute doses of poison. In this insidious form of mischief may lie some of the blame for our physical degeneracy. Apparently the evil is of such sort that international measures may be necessary to check it. Treatment of food in this manner should not be called adulteration, but poisoning pure and simple.—London Telegraph.

Useful Facts to Know.

Here are a few suggestions in regard to the things which a careful housewife may find it wise to teach the new maid:

Teach her to put as much furniture as possible outside the room before beginning to sweep, to brush the rest and cover it with dust cloths, says the Philadelphia Telegraph.

Teach her to soak newspapers in cold water, squeeze them, tear into bits and sprinkle on the floor to prevent dust flying.

Teach her to rub the carpet well after sweeping with a cloth wrung out of clean ammonia water—one tablespoonful to two quarts of water.

Teach her to wipe the polished floor with a damp cloth and then rub with a dry one.

Teach her to clean the windows while the dust is settling.

Teach her to use a flat paintbrush for window frames and latches.

Teach her to remove the spots or finger marks on white woodwork with a cloth wrung out of warm water and dipped in prepared chalk.

Raw Eggs.

When raw eggs are ordered for an invalid to whom they are objectionable, make as palatable as possible by having the egg as cold as one can make it and then serve it from a cold glass as soon as it is opened. Of course, it is useless to serve any save perfectly fresh eggs.

If the white alone is to be taken, it should be beaten with a whisk until very stiff and frothy, then seasoned with salt or sugar, whichever is preferred, and eaten with a spoon.

Some who object to an egg beaten in a glass of milk, sweetened and flavored, can take the egg if the sugar is omitted and the flavoring extract replaced by brandy.—What to Eat.

Domestic Hints.

Canned Corn Patties.—Take one can of best sweet corn and chop fine in a chopping tray. Add two beaten eggs, to which has been added two tablespoonfuls of milk, a tablespoonful of salt, a half tablespoonful of pepper, and two even tablespoonfuls of flour. Beat well and fry on a griddle in a tablespoonful of mixed lard and butter, dropping one spoonful for each patty. Fry brown on both sides and serve hot.

Chocolate Bread Pudding.—Put into a bowl two cupfuls of stale breadcrumbs and pour over them one quart of scalded milk. While it is cooling put two squares of chocolate in a saucepan and melt it over hot water. When the bread and milk are cool mix with them two-thirds of a cupful of sugar, two eggs slightly beaten, the chocolate, one saltspoonful of salt and one teaspoonful of vanilla. Bake in a buttered tin an hour in a moderately hot oven. It is to be eaten cold with cream.

Sugar Puffs.—Take the whites of ten eggs, beat them till they rise to a high froth; put in a stone mortar, or wooden bowl, add as much double refined sugar as will make them thick; put in a little ambergris to give them a flavor, rub them round the mortar for half an hour; put in a few caraway seeds; take a sheet of wafers, lay them on as broad as a sixpence, and as high as they can be laid, put them in a moderate oven half a quarter of an hour, and they will look as white as snow.

Custard Pudding. — This may be baked in little cups. A good recipe is as follows: Put in a basin a quarter of a pound of granulated sugar and the yolks of five eggs, and mix thoroughly with a pastry whip for two minutes. Add a quart of milk and a little lemon essence if the custard is served hot with caramel sauce, or vanilla if served cold. Butter and sugar six of the individual moulds and divide the pudding among them. Set them in a saucepan of water and bake the puddings in a moderately hot oven for forty minutes. Test each with a knife to see if it is firm in the center. When ready to be served turn them out on dessert saucers, and pour a tablespoonful of hot caramel sauce over each.

Egg Croquettes.—Four hard boiled eggs, three tablespoonfuls of cream, butter the size of a large nutmeg, a heaping saltspoonful of salt, a dash of pepper. When the eggs are very hard and perfectly cold rub through a fine wire sieve, add the cream, salt and pepper, beating in gradually. Melt the butter and stir in. As eggs sometimes vary in size, a little thickening may be needed to give the right consistency. Use the finest cracker dust, adding a little at a time until the mixture can be moulded into very soft balls. Roll in cracker dust and drop into a deep kettle of hot fat to fry. When they are brown, drain on a wire sieve, and serve with lettuce salad. For this purpose the croquettes should be cold. When hot, serve with crisp bacon.

Bed Coverings.

The main use of the coverings at night is to give the body the warmth that is lost by reduced circulation of the blood. When the body lies down it is the intention of Nature that it should rest, and that the heart especially should be relieved temporarily of its regular work. So that organ makes ten strokes per minute less than when the body is in an upright position. This means 600 strokes in sixty minutes. Therefore, in the eight hours that man usually spends in taking his night's rest, the heart is saved nearly 5000 strokes. As it pumps six ounces of blood with each stroke, it lifts 30,000 ounces less of blood in the night's session than it would during the day, when a man is usually in an upright position. Now, the body is dependent for its warmth on the vigor of the circulation, and as the blood flows so much more slowly through the veins when one is lying down, the warmth lost in the reduced circulation must be supplied by extra coverings.

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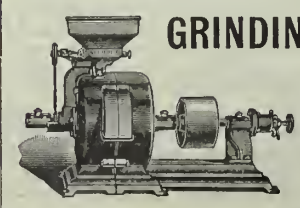
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The Markets.

San Francisco Produce Report.

San Francisco, July 13, 1904.

CHICAGO WHEAT FUTURES.

Wheat futures in Chicago were as follows for the week named, price being for No. 2 Red per bushel:

	Sept.	Dec.
Wednesday	83 @ 83½	82⅞@83⅜
Thursday	83⅜@ 84¾	83¼@84⅝
Friday	85½@ 83⅞	85¾@83¾
Saturday	84¼@ 83⅝	84¼@83¼
Monday	83½@ 85⅝	83⅛@84¼
Tuesday	84¾@ 86¼	83⅞@85½

CHICAGO CORN FUTURES.

Prices of futures on No. 2 corn per bushel in Chicago were as follows for the week:

	Sept.	Dec.
Wednesday	49 @49¼	45½@46¼
Thursday	49⅜@50¼	46 @47
Friday	50⅝@49¼	47¼@45⅞
Saturday	49⅜@48¾	45⅝@45
Monday	48½@49⅛	44⅝@45⅜
Tuesday	48½@48⅜	44½@44⅝

SAN FRANCISCO WHEAT FUTURES.

The range of values in San Francisco for No. 1 White wheat per cental was as follows:

	Dec., 1904.	May, 1905.
Thursday	$1 30⅝@1 29¾	$——@——
Friday	1 30¼@1 29⅜	——@——
Saturday	1 29¼@1 29	——@——
Monday	1 30¼@1 31	——@——
Tuesday	1 31 @1 31½	——@——
Wednesday	1 31⅜@1 32½	——@——

Wheat.

The new season has opened, but the wheat market continues along in the same dull fasbion as for weeks preceding. Very little wheat arriving from any quarter, and very little going aboard ship at present for Europe or any other foreign destination. The first new wheat put in an appearance last week, two lots arriving almost simultaneously, one being a carload from the vicinity of Visalia, Tulare county, and the other lot was 175 sacks from the region of Germantown, Glenn county. The Visalia wheat was tho first sold, going to a local mill at $1.40, and was placed on record as the first arrival for the season of 1904–'05. This year new wheat was later putting in an appearance, as indicated by initial shipments, than any previous season since 1864, when the first arrived July 9 and sold for $2.80, the highest price recorded for first arrivals. Tbe earliest date for the arrival of new California wheat was in 1900, a small lot being received on May 11, and it sold at the lowest price of any initial shipment, going at 92½c. Despite the existing dullness, the market for spot wheat fails to incline in favor of the buying interest. Speculative values have advanced, market closing firm.

California Milling	$1 40	@1 50
Cal. No. 1 shipping, alongside	1 30	@1 32½
Oregon Club	1 27½@1 32½	

PRICES OF FUTURES.

During past week the range on options was:
December, 1904, delivery, $1.29@1.32½.
May, 1905, delivery, $——@——.
Wednesday, at the forenoon session of Exchange, December, 1904, wheat sold at $1.31¾@1.32½; May, 1905, $——@——.

Ocean freights and prices for wheat, as compared with a year ago, are as follows:

	1903–04.	1904–05.
Liv. quotations	6s6½d@6s7d	–s–d@–s–d
Freight rates	17½@18¾s	19½@—s
Local market	$1 35 @1 37½	$1 30 @1 35

Flour.

Considerable flour is being shipped to the Orient on contract, but with this exception the export movement is light. Trade on local account is of small proportions, even for this time of year, which is invariably quiet in the flour market. In quotable values there is no change, but wholesale transfers at full figures are the exception.

Superfine, lower grades	$3 15	@3 25
Superfine, good to choice	3 25	@3 50
Country grades, extras	4 00	@4 30
Choice and extra choice	4 30	@4 60
Fancy brands, jobbing	4 50	@4 80
Oregon, Bakers' extra	3 50	@4 00
Washington, Bakers' extra	3 50	@4 15

Barley.

The general tone of tbe market for this cereal, as evidenced in speculative trading in Dec. option, has shown more firmness. Quotable values for spot barley, as also prices for futures, are on a rather low plane, buyers endeavoring to keep tbem down, and are having for tbe time being much their own way from the fact that there are only two ships in the harbor engaged for barley, and the cbarterers of these vessels are bidding only low figures in this center. Most of the barley now offering is low grade. Holdors of cboice are as a rule not disposed to sell at prevailing values.

Feed, No. 1 to choice new	$ 96¼@	98¾
Feed, fair to good	95 @	96¼
Brewing, No. 1 to choice new	1 00	@1 05
Chevalier, No. 1 to choice	1 05	@1 12½
Chevalier, common to fair	97½@1 02½	

Oats.

Demand is fairly active, considerable quantities of oats being purcbased on Government account. Local dealers are also desirous of stocking up, baving very little on hand. While the market is moderately firm for best qualities of new oats, strength is most pronounced on cboice old white, this description being in slim supply and in request for immediate use for thoroughbred and carriage borses.

White oats, fancy feed, old	$1 32½@1 35	
White, good to choice, new	1 22½@1 30	
White, poor to fair	1 15 @1 20	
Milling	1 22½@1 30	
Black oats	1 12½@1 22½	
Red, fair to choice	1 12½@1 25	

Corn

Aside from Eastern large, straight and mixed, tbere is not much corn on the market, nor are there likely to be any heavy offerings of domestic product in the near future. Quotable values are being maintained at about same range as last noted, witb trade of only moderate volume.

Large White, good to choice	$1 42½@1 47½	
Large Yellow	1 42½@1 47½	
Small Yellow	1 57½@1 62½	
Egyptian White	1 30 @1 35	
Egyptian Brown	1 22½@1 27½	
Eastern, in bulk	1 35 @1 40	

Rye.

Demand and offerings are both of rather light proportions. Quoted values are for new.

Good to choice, new	$1 20	@1 30

Buckwheat.

Local market is bare of offerings from first hands. Stiff prices are prevailing East.

Beans.

Business is of light proportions, either for shipment or local account. Stocks of most kinds are comparatively ligbt, bowever, and it is tbe exception wbere any disposition is shown to crowd offerings to sale. Quotable values throughout the list remain at practically the same range as noted in last issue.

Pea, fair to good, 100 lbs	$2 90	@3 15
Small White, good to choice	2 90	@3 15
Large White	2 30	@2 55
Pinks	3 40	@3 55
Bayos, good to choice	2 40	@2 60
Red Kidneys	4 50	@5 00
Reds	4 25	@4 75
Limas, good to choice	3 35	@3 40
Black-eye Beans	2 00	@2 15

Dried Peas.

Some new crop Green or Blue Peas arrived the past week from Humboldt county for whieb a local mill bid $2.25, but did not secure the stock. Imported cannot be obtained under $3. There are very few Niles or Garbanzos on market.

Green Peas, California	2 50	@3 00
Niles Peas	2 50	@2 75
Garbanzos, large	2 75	@3 00
Garbanzos, Small	2 25	@2 50

Hops.

The local market is exceedingly quiet, there being nothing of consequence doing in either hops of 1903 crop or in new to arrive. For forward deliveries of 1904 bops quotable values are nominally 16@19c., but it would have to be a particularly desirable growth that would command in a regular way the extreme figure at this date. The New York Producers' Price Current says: "Continued dullness prevails in tbe market and no transactions of any importance have been reported. Trading is of a retail character owing to light demand from brewers. Reports from New York State as to growing crop indicate a very strong and healthy vine, which has reached almost to the top of the pole, with no trace of vermin. From Oregon a great deal of complaint of lack of moisture, and some say that this State will not raise any more hops than last year. Reports from Washington are good. Advices received from Germany and Bohemia indicate a larger yield than last year, and excellent quality. Bohemia reports those sections that were almost an entire failure last year as showing up extremely well, and that their early varieties are so far advanced they will probably be ready for market by the first of August. From England the complaint about vermin is still quite bad, but it is so early in tbe season that this is not a matter to worry over as yet."

California, good to choice, 1903 crop	23	@27

Wool.

Little doing in this center in the way of transfers from first hands, due to absence of noteworthy offerings rather than to lack of demand. The same firm tone previously noted continues to prevail. Saturday's Panama steamer carried 129,848 lbs. wool for New York.

SPRING.

Northern, free	20	@22
Northern, defective	15	@18
Middle Counties, free	15	@18
Middle Counties, defective	12	@15
Southern, 12 months	10	@12
Southern, 7 months	9	@11
Spring Lamb, Northern	14	@16
Spring Lamb, Southern	10	@13
Oregon, good to choice	18	@21
Nevada	14	@19

Hay and Straw.

The local hay market is lacking in firmness, dealers and large consumers being slow to operate at otber than low figures. Many of them had the experience last season of buying at higber figures at the opening than were current at the close. Tbey would like to see the order of fluctuations in values reversed this year. Much of the hay in the interior is held above the parity of values now current here. Straw remains in light supply, with market against buyers.

Wheat, good to choice	$11 00	@ 12 50
Wheat and Oat	10 00	@ 12 00
Tame Oat, fair to choice	8 50	@ 11 50
Wild Oat	7 00	@ 8 50
Barley	7 00	@ 9 00
Alfalfa	7 00	@ 10 00
Compressed	10 00	@ 12 50
Straw, ₱ bale	70	@ 85

Millstuffs.

Tendency on Bran and Middlings is to lower figures, but the market is slow in declining, stocks being largely in few hands and there is consequently little competition among sellers. Rolled Barley is held about as last quoted. Market for Milled Corn is ruling steady. Oilcake Meal is scarce.

Bran, ₱ ton	$21 00	@ 22 00
Middlings	25 00	@ 28 00
Shorts, Oregon	21 50	@ 22 50
Barley, Rolled	21 50	@ 22 50
Cornmeal	31 00	@ 31 50
Cracked Corn	31 50	@ 32 00
Oilcake Meal	31 50	@ 33 00

Seeds.

Little doing in this department. Stocks of most kinds are light. Some Yellow Mustard is coming forward and there is a fair inquiry for the same, with market tolerably firm at current rates. Trieste or Brown Mustard is too scarce to admit of other tban nominal quotations.

	Per ctl.	
Alfalfa, Cal., good to choice	$14 00	@16 00
Flax	1 80	@ 2 00
Mustard, Yellow	2 75	@ 3 25
Mustard, Trieste	3 75	@ 4 25
	Per lb.	
Canary	6¼@	7
Rape	1¾@	2¼
Hemp	3½@	—
Timothy	5 @	5½

Honey.

Strictly choice water white is in light supply and market for such is tolerably firm, there being a fair inquiry on local account. For amber grades, however, there is not much demand, except for shipment abroad at lower prices than are prevailing in tbis center or than apiarists are willing to accept.

Extracted, White Liquid	5½@	6
Extracted, Light Amber	5 @	5½
Extracted, Amber	4 @	4½
Extracted, Dark Amber	3¼@	3¾
White Comb, 1-frames	12½@	13
Amber Comb	9 @	11

Beeswax.

There is a demand for more than is obtainable, stocks being very light. Market is firm at the quotations.

Good to choice, light ₱ lb	28	@30
Dark	26	@27½

Live Stock and Meats.

Quotable values for Beef have not changed materially since last review. Best qualities are in fair request, but the cheaper grades move rather slowly. Desirable Veal is not in heavy receipt and sells promptly at tolerably good figures. Mutton is offering in only moderate quantity, and for good to choice the market is firm at current values. Lamb is selling to very fair advantage, there being no large amount on market. The supply of Hogs is rather light, but not many are required at present, packers doing little and tbe immediate demand for fresh pork being of small volume.

Allowing for the shrinkage of about 50%, which is exacted in buying cattle on the hoof, live cattle command as much or more per pound than dressed beef, the shrinkage exacted being the slaughterers' profit.

The following quotations for beef and mutton are based on prices realized by slaughterers from wholesale dealers:

Beef, 1st quality, dressed, net ₱ lb	0½@	—
Beef, 2nd quality	5½@	—
Beef, 3rd quality	4 @	5
Mutton—ewes, 7@—c; wethers	8 @	—
Hogs, hard grain, 140 to 200 lbs	4¾@	—
Hogs, large, hard, over 200 pounds	4¼@	4½
Hogs, small, fat	4½@	—
Veal, large, ₱ lb	7 @	8
Veal, small, ₱ lb	8 @	9
Lamb, spring, ₱ lb	9 @	10

Hides, Skins and Tallow.

Dry Hides are in fair request at full current rates. There are no special accumulations of Wet Salted, values for same ruling steady. Tallow market is quiet but not quotably lower.

Nothing but select hides, clean and trimmed will bring full figures. Culls of all kinds, either from grubs, cuts, hair slips, side brands or murrain, are not always readily placed at the lower figures.

	Sound.	Culls.
Heavy Steers, over 56 lbs	— @ 9½	— @ 8
Medium Steers, 48 to 56 lbs	— @ 8½	— @ 7½
Light Steers, under 48 lbs	— @ 8	— @ 7
Heavy Cow Hides, over 50 lbs	— @ 8	— @ 7
Light Cow Hides, under 50 lbs	— @ 8	— @ 7
Stags	— @ 6	— @ 5
Wet Salted Kip	— @ 9	— @ 8
Wet Salted Veal	— @10	— @ 9
Wet Salted Calf	— @11	— @10
Dry Hides	— @16	— @15
Dry Kip and Veal, 11 to 16 lbs	— @13	— @12
Dry Calf, under 4 lbs	— @18	— @16

Pelts, long wool, ₱ skin	1 00@	1 50
Pelts, medium, ₱ skin	70@	90
Pelts, short wool, ₱ skin	40@	50
Pelts, shearling, ₱ skin	15@	30
Horse Hides, salted, large prime, each	2 75@	——
Horse Hides, salted, medium	2 25@	2 50
Horse Hides, salted, small	1 25@	——
Horse Hides, dry, large	1 75@	——
Horse Hides, dry, medium	1 25@	——
Horse Hides, dry, small	1 00@	——
Tallow, good quality	4 @	4½
Tallow, poorer grades	2½@	3½

Bags and Bagging.

Market for Grain Bags is quiet at quotably unchanged values. Not much doing in Fruit Sacks or Wool Bags, asking prices for both continuing practically the same as before noted.

Bean Bags	$ 4¾@	5
Fruit Sacks, cotton	6¾@	6¾
Fruit Sacks, jute, as to quality	5¾@	7
Grain Bags, Calcutta, 22x36, spot	5½@	5¾
Grain Bags, San Quentin, ₱ 100	5 40	@——
Wool Sacks, 4-lb	32	@——
Wool Sacks, 3½-lb	30	@——

Poultry.

Not much California poultry arriving, neither is there great demand for the same, especially for common old fowls, which constitute the bulk of offerings. Retailers are being stocked up mainly with Eastern poultry, five carloads of which arrived tbe past week. Choice Young Roosters, Fryers and Broilers were not plentiful and brought comparatively good figures. Very little inquiry for either Turkeys, Ducks or Geese. Tbe Pigeon market was quiet and prices were barely steady.

Turkeys, young gobblers, ₱ lb	$ 14	@ 15
Turkeys, young hens ₱ lb	14	@ 15
Hens, California, ₱ dozen	4 00	@ 4 50
Hens, large	4 50	@ 5 00
Roosters, old	4 00	@ 4 50
Roosters, young (full-grown)	7 50	@ 8 50
Fryers	4 50	@ 5 50
Broilers, large	3 00	@ 4 00
Broilers, small to medium	2 50	@ 3 00
Ducks, old, ₱ dozen	3 50	@ 4 50
Ducks, young, ₱ dozen	4 00	@ 5 00
Geese, ₱ pair	1 25	@ 1 50
Goslings, ₱ pair	1 25	@ 1 50
Pigeons, old, ₱ dozen	1 50	@ ——
Pigeons, young	1 25	@ 1 50

Butter.

High grade fresh in squares is not in very excessive supply, much of the product still going into cold storage in the shape of cubes. Medium qualities of fresh are in liberal stock and for this description the market lacks firmness. Considerable Eastern butter of various grades is coming forward, and more is being contracted for to arrive.

Creamery, extras, ₱ lb	21	@22
Creamery, firsts	20	@21
Creamery, seconds	19	@20
Dairy, select	20	@21
Dairy, firsts	19	@20
Dairy, seconds	17½@	18½
Cold storage	—	@—
Mixed Store	13½@	14

Cheese.

There is a fair demand for domestic flats, and for desirable qualities current values are being well maintained. Young Americas are in a little better supply than lately, owing to arrivals from Oregon.

California, fancy flat, new	9½@	10
California, good to choice	9 @	9½
California, fair to good	8½@	9
California, "Young Americas"	10 @	11
Eastern	10 @	13

Eggs.

Uniformly large, white and strictly fresh eggs are in light receipt and are meeting with a firm market. Sales of favorite marks are being made in a small way up to 28c., this figure including cost of city delivery. A car of select Minnesota eggs arrived and sold to retailers at 22½c. California eggs from warm localities would not command as much as No. 1 Eastern.

California, select, large, white and fresh	26	@27½
California, select, irregular color & size	23	@25
California, good to choice store	19	@21
Eastern firsts	19	@21
Eastern seconds	16	@18

Vegetables.

Most kinds of vegetables in season were in ample supply, and the general drift of values was in favor of the buying interest, especially for other than most select qualities. Some extra choice sold at an advance on tbe figures warranted as regular quotations. Season for Asparagus is about ended. String Beans, Cucumbers and Squash were in liberal supply. Green Corn was in increased receipt. Red Onions arrived more sparingly, while receipts of Yellow Danver variety were on the increase.

Beans, String, ₱ lb	2 @	4
Beans, Wax, ₱ lb	2 @	4
Cabbage, choice garden, ₱ 100 lbs	1 00 @	1 25
Corn, Green, ₱ crate	1 50 @	2 00
Cucumbers, ₱ large box	40 @	65
Egg Plant, ₱ lb	4 @	6
Garlic, new, ₱ lb	3 @	4
Okra, Green, ₱ lb	10 @	12½
Onions, Cal. Red, ₱ sack	1 00 @	1 15
Onions, Yellow Danver, ₱ ctl	1 35 @	1 50
Peas, sweet garden, ₱ lb	3½@	4½
Peppers, Green Chile, ₱ lb	4 @	6
Rhubarb, ₱ box	40 @	75
Summer Squash, ₱ box	30 @	50
Tomatoes, ₱ crate	50 @	1 00
Tomatoes, River, large box	1 25 @	1 50

NOTE.—Large boxes are what are known to the trade as "pay boxes," which have to be returned or paid for. They are open top, with hand holes in the ends, and weigh when filled from 50@60 lbs gross. Small boxes are free boxes, about the same as the regular fruit box, weighing when full from 20 to 30 lbs. gross.

Potatoes.

There were fairly liberal receipts of new potatoes, and prices averaged lower than previous week, altbough, as compared with last season. very good figures are still being realized. That values for choice to select will suffer any very marked declines in tbe near future is not probable. Old potatoes are still in evidence, mainly Oregon Burbanks, and are moving slowly at rather low figures.

Old Oregon Burbanks	85	@	1 10
New Salinas Burbanks, ₱ cental	1 50	@	2 00
New Potatoes, white, ₱ cental	1 50	@	2 00
New Early Rose, ₱ cental	1 40	@	1 65
New Garnet Chile	1 50	@	1 65

Fresh Fruits.

Apple market is fairly well stocked with common qualities, but choice to select are not plentiful, and for latter sort tolerably good figures are being realized, especially for high grade Gravenstein. Apricots sold at much the same range as previous week, but for otber than choice to fancy tbe market was not firm. Canners were running mainly on contract deliveries. Peacbes were in rather free receipt, and only favorite late varieties showing fine condition were eagerly sought after. Nectarines put in an appearance, principally from Fresno section, but offerings were mainly too hard to be desirable for immediate use. Plums are in good supply and the market inclined in favor of consumers. Bartlett Pears of prime to choice quality brought tolerably good figures, but windfalls moved slowly at low prices. Market for common varieties of Pears was without noteworthy firmness. Figs were in good supply. Grapes were in moderate receipt, mostly Seedless, although some White Malagas and a few of Black varieties were in evidence; demand was only fair and prices inclined downward. Huckleberries arrived in small quantity. Other berries in season sold at about same figures as previous week, the market in the main being favorable to buyers.

Apples, Gravenstein, ₱ 50-box	1 35	@	1 50
Apples, good to choice, 50-lb. bx	75	@	1 25
Apricots, ₱ crate	40	@	85
Apricots, ₱ ton	20 00	@	40 00
Blackberries, ₱ chest	2 50	@	4 00
Cantaloupes, & crate	1 25	@	2 00
Figs, small box, 50@75; large box	1 00	@	1 50
Grapes, ₱ crate	1 00	@	1 50
Huckleberries, ₱ lb	10	@	15
Loganberries, ₱ chest	2 00	@	3 50
Nectarines, White, ₱ crate	50	@	75
Nutmeg Melons, ₱ box	1 00	@	1 50
Peaches, ₱ large box	70	@	1 25
Peaches, ₱ small box	30	@	65
Pears, Bartlett, ₱ 40-lb box	75	@	1 25
Pears, other varieties, small box	50	@	75
Plums, Peach, ₱ box	75	@	1 00
Plums, Simoni, ₱ box	40	@	75
Prunes, Tragedy, ₱ box	50	@	75
Raspberries, ₱ chest	4 00	@	6 00
Strawberries, Longworth, ₱ chest	3 00	@	5 00
Strawberries, large, ₱ chest	2 00	@	4 00
Watermelons, ₱ lb	1½	@	—

Dried Fruits.

As is natural at tbis time of year, most dealers are trying to make it appear that the outlook for dried fruits is anything but encouraging. It is a Presidential year, which is always bad for business, but it does not take a very keen observer to notice that wben it is not a Presidential year, the bears are careful not to make any mention of that fact. Then there are labor troubles in the East, present and prospective, just as though that was something new, and on top of it all, the fruit crop East is going to be above the average, especially of Apples and Peaches. A rather gloomy picture, it must be admitted, but actual conditions locally are not nearly so gloomy as the picture some of the prominent buyers have been lately painting for their own benefit. Apricots are commanding 8c for choice in the sweat box and proportionately good figures for other grades. On Peaches of fair to good average run 5¾@6c in the sweat is being bid, and the market gives no evidence of weakness at these figures. Spot stocks of Apples are light, with 6¾c asked for best now offering, and market for select new evaporated in boxes expected to open at 7½@8c. In Prunes there is not much doing, either in old or new, although some transfers of coming crop are being booked on domestic account on the 2¼c bag basis. Figs are expected to sell somewhat lower than last season, the crop being large and fine. Pears are also expected to rule slightly lower, in consequence of better crop, but values for new cure of this fruit are as yet largely nominal. The steamer Sierra, sailing for Australia on the 8tb inst., carried 47,071 pounds dried fruit, exclusive of Raisins, and including 26,261 pounds Prunes, 11,025 pounds Apricots, 3860 pounds Apples and 3400 pounds Peaches. The steamer Queen, bound for British Columbia July 9, carried 41,122 pounds dried fruit, aside from Raisins, and including 31,483 pounds Prunes, 5450 pounds Apricots, and 1250 pounds each of Apples and Peaches. Of the last-named sbipment, 30,000 pounds Prunes and 2950 pounds Apricots were for Winnipeg.

EVAPORATED OR BLEACHED.

Apples, 50-lb boxes, rings, pressed, good to choice	5½@ 6
Apples, extra choice to fancy, 50-lb boxes	6½@ 7
Apricots, Moorpark	8 @10
Apricots, Royal, good to choice, ₱ lb	7½@ 8
Apricots, Royal, fancy	8½@ 9
Figs, 10-lb box, 1-lb cartons	50 @70
Peaches, unpeeled, choice	6 @ 6½
Peaches, unpeeled, fancy	7 @ 7½
Plums, Black, pitted	4½@ 5
Plums, Yellow, pitted	5 @ 7
Prunes, Silver, good to fancy	2½@ 5
Prunes, in bags, 4 sizes, 2@2¼c; 40-50s, 3¾@4c; 50-60s, 3⅜@3½c; 60-70s, 2⅞@3c; 70-80s, 2⅜@2½c; 80-90s, 1⅞@2c; 90-100s, 1⅜@1½c; small, ¾@1c.	

COMMON SUN-DRIED.

Apples, sliced	3½@ 4½
Apples, quartered	3½@ 4½
Figs, White, in bulk	2½@ 3½
Figs, Black	3 @ 4

Raisins.

While the market is not showing any noteworthy activity, there is about as much trade as ordinarily experienced at this time of year. Official card rates of the Association are without change. The steamer Queen, sailing for British Columbia on Saturday last, carried 6900 lbs. Raisins, and the Australian steamer took 4100 lbs. About 600 tons—$48,000 worth—were destroyed by fire at Fresno, fully insured.

Following are current quotations for raisins as announced by the Growers' Association of Fresno for crop of 1903, f. o. b. at Fresno, subject to change without notice:

Standard Grades—	50-lb. cases, Per lb.
2-Crown Loose Muscatels	4 c
3-Crown Loose Muscatels	4¼c
4-Crown Loose Muscatels	—c
Seedless Loose Muscatels	3¼c
Seedless Floated	3½c
2-Crown Malaga Loose	3¾c
3-Crown Malaga Loose	4 c
Seedless Sultanas, Unbleached	3½c
Seedless Thompson's, Unbleached	—c

SEEDED.

Fancy 16-oz. Cartons, ₱ lb	5½c
Fancy 12-oz. Cartons, ₱ pkg	4½c
Fancy Bulk Cartons, ₱ lb	5¼c
Choice, 16-oz. Cartons, ₱ lb	5¼c
Choice, 12-oz. Cartons, ₱ pkg	4¾c
Choice, Bulk Cartons, ₱ lb	5 c

Citrus Fruits.

Valencia Oranges are in fair supply, selling mainly within range of $1.75@2.50 per box, as to quality, a few fancy commanding up to $3 in a small way, with demand only moderate. Lemons are in fair supply, more than sufficient for immediate requirements, values remaining practically as previously quoted. Prices for Limes are without change.

Oranges, Valencias, ₱ box	1 50	@	3 00
Lemons, California, select, ₱ box	2 50	@	—
Lemons, California, good to choice	1 75	@	2 25
Lemons, California, fair to good	1 25	@	1 75
Grape Fruit, ₱ box	1 25	@	2 50
Limes, Mexican, ₱ box	4 00	@	4 50

Nuts.

Considerable inquiry is reported for new crop Almonds for future delivery. Tbe leading Hatch varieties are quoted at 10@11c in round lots, and soft shells 7½@8½. Large orders bave been booked for Walnuts at prices to be fixed later on. The California crop promises to be larger and of better quality than last year. The market for Chile Walnuts is quoted firm at 9c wholesale New York. Peanut market is ruling steady, witb offerings mainly Japanese product.

California Almonds, shelled	16 @19
California Almonds, paper shell	11 @12½
California Almonds, soft shell	9 @11
California Almonds, hard shell	5 @ 6
Peanuts, fair to prime	4½@ 5½

Wine.

Market for wines shows much the same general condition as previously noted. Some transfers of dry wines are reported at interior points, mainly for shipment East, at private terms. Quotable values remain practically as last noted, 15@17c. per gallon for dry wines of 1903, San Francisco delivery. Sweet wines of last vintage are held at 30c. per gallon at points of production. It has been published in some interior papers that tbe Wine Dealers' Association would not name a price for wine grapes this season, but this is doubted by parties here in close touch with the wine trade and not connected with the Association. Receipts of wine at San Francisco last week were 260,625 gallons, and for previous week were 472,740 gallons. The steamer Acapulco, sailing on 9th inst., carried 96,618 gallons and 20 cases, including 88,764 gallons for New York.

Produce Receipts.

Receipts and exports of leading cereals and other California products for the past week and for the season to date, as compared with the corresponding time the previous year, are as follows:

FOR THE WEEK.		Since July 1, 1904.	Same time last year.
Flour, ¼ sks	30,013	30,013	112,252
Wheat, ctls	16,211	16,211	13,755
Barley, ctls	44,301	44,301	37,332
Oats, ctls	7,620	7,620	10,848
Corn, ctls	1,484	1,484	1,570
Rye, ctls	520	520	265
Beans, sks	3,723	3,723	975
Potatoes, sks	20,958	20,958	22,714
Onions, sks	2,241	2,241	3,683
Hay, tons	3,164	3,164	5,756
Wool, bales	624	624	720
Hops, bales			

EXPORTS BY SEA.

FOR THE WEEK.		Since July 1, 1904.	Same time last year.
Flour, ¼ sk	32,336	32,336	43,656
Wheat, ctls	715	715	670
Barley, ctls	10,692	10,692	7,906
Oats, ctls	328	328	468
Corn, ctls	467	467	717
Beans, sks	339	339	500
Hay, bales	3,652	3,652	2,421
Wool, lbs	96,129	96,129	132,002
Hops, lbs	30	30	2,373
Honey, cases			15
Potatoes, pkgs	597	597	3,614

New Patents.

DEWEY, STRONG & CO.'S SCIENTIFIC PRESS PATENT AGENCY, 330 Market St., S F., has official reports of the following U. S. patents issued to Paoific coast inventors:

FOR THE WEEK ENDING JUNE 28, 1904.

763,652.—HOSE COUPLING—J. A. Allen, Seattle, Wash.
763,455.—GAS APPARATUS—C. M. Baker, S. F.
763,537.—RAIL LUBRICATOR—M. W. Bird, Seattle, Wash.
763,354.—FILTER BEDS—H. W. Blaisdell, Los Angeles, Cal.
763,720.—HYDRAULIC LIFT—R. W. Campbell, S. F.
763,593.—CULINARY UTENSIL—C. Canclini, Sonora, Cal.
763,594.—HOSE NOZZLE HOLDER—Annie L. Chubb, Oakland, Cal.
763,541.—RANGE—Q. Crane, San Diego, Cal.
763,470.—WRENCH—A. D. Erb, Hubbard, Or.
763,475.—EXERCISING MACHINE—Fraz'e & Whitcomb, S. F.
763,878.—SCHOOL DESK—Gilson & Rowe, Oakland, Cal.
763,480.—HORSE RELEASE—F. C. Goettert, Seattle, Wash.
763,879.—SASH FASTENER—M. L. Gordon, Los Angeles, Cal.
763,880.—SEWING MACHINE—G. I. Green, S. F.
763,396.—FORCEPS—J. F. Hemphill, Arlington, Or.
763,891 —HARVESTER—C. Hesse, Red Bluff, Cal.
763,607.—UPHOLSTERY SPRING SUPPORT—J. Hoey, S. F.
763,609.—SIDEWALK ELEVATOR DOORS—P. H. Jackson, S. F.
763,563.—SIGNAL—H. L. Jennings, Clifton, Ariz.
763,612.—THAWING GROUND—C. W. Joynte, Seattle, Wash.
763,492 —DRAWER GUIDE—W. Laakso, S. F.
763,773.—ROTARY MOTOR—C. A. Marlitt, Portland, Or.
763,919.—GAS GENERATOR—P. Meyer, Santa Rosa, Cal.
763,568.—PIPE DRESSING MACHINE—O. Quandt, Los Angeles, Cal.
763,932.—NUT LOCK—J. M. Schofield, Stockton, Cal.
763,572.—WATER WHEEL GOVERNOR—D. W. Starrett, Oakland, Cal.
763,519.—PURSE AND HOSE SUPPORTER—Taylor & Flint, S. F.
763,824.—WELL DRILL—H. H. Wilburn, North Yakima, Wash.
763,584.—EXHIBITION CASE—D. Woods, S. F.

California Fruits.

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By PROF. E. J. WICKSON.

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Bright's Disease and Diabetes News.

Law Offices of Henley & Costello.
San Francisco, Jan. 20, 1904.

To the legal profession of California:

I was a witness to the following: About two years ago Prof. Yost of Palo Alto who was in an extreme condition due to advanced Bright's Disease, came to my office. He was attended by his physician who was himself a victim of Diabetes. The object of the visit was to meet a prominent business man who had for months been investigating an alleged cure for Bright's Disease and Diabetes, and hear his verdict. He declared that the claims were fully proven and that the cure had been discovered. Both Prof. Yost and his physician at once adopted the treatment. Within six months both were so well along toward recovery that they considered themselves beyond danger and at this date neither Bright's Disease nor Diabetes hold any terrors for them, and the physician is successfully using the treatment in his practice.

Learning that my old law partner, Judge R. R. Bigelow, for many years Chief Justice of the State of Nevada, had Bright's Disease and that though he had had four or five of our best physicians, yet that he had had to give up practice and was in a serious condition, I lost no time in telling him of the above. It resulted in his complete recovery and he is again back to active practice. As to the curability of chronic Bright's Disease and Diabetes I have no more doubt about it than that I am living.

Sincerely yours,
BARCLAY HENLEY.

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PATENTS

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THE FIELD.

A Plea for County Exhibits at the State Fair.

To the Editor:—Now is the time for the farmers of this State to show that they appreciate the benefit to the agricultural interests of the State to be derived from a first-class State Fair. If a thing is worth doing at all it is worth doing well, and in order to do a thing of such magnitude well it is necessary for some one to take hold of it with earnestness and judgment, but it can not be carried out successfully by one man or a dozen.

It is a broader proposition than any mere personal matter, for it is a matter of State concern; not one branch only of business in California is involved, all are equally concerned in the success or failure of the Fair and therefore every citizen who has a pride or interest in the welfare and progress of the Golden State should take a personal interest in the matter and lend his personal influence toward bringing the Fair to the most successful conclusion possible. The Directors of the State Agricultural Society are all men who are earnest, capable, successful business men with large business interests. They are giving largely of their time and money—often to the partial neglect of their private business — without salary or compensation, to promote the general welfare of the State and further its development. They possess the same private interest in it that every citizen does or should. But it is not right or just that the whole burden should be laid on their shoulders simply because they have assumed the position of responsibility. They need to have their hands held up and to have the assistance of others who are equally interested and who will receive equal and in many cases greater benefits.

The merchant, the manufacturer and the inventor all realize the immense benefit to be received from the advertising resultant on an exhibition of their wares at a place where the people of the State meet together to inspect the articles they offer for sale, and which brings their goods into closer touch with the people far more than even an advertisement in a good newspaper. They send their goods to the State Fair with that end in view and are successful in their advertising. True, they have traveling men, at large salaries, traveling over the State to sell their goods, but they know that these men can only reach a small portion of the community, therefore they supplement the men's work by an exhibit at the Fair, which they are sure will score a point in a business way if their rivals do not do likewise.

But the farmer, in the main, does not seem to think that his business needs any advertising. He sends out no salesmen on the road and if he ever comes in contact with one it is the man sent out by the commission man to buy his crop as cheaply as possible before the price goes up. He puts no advertisement of his products in the paper, but sits down and generally takes whatever price is offered him for them. He seems to overlook the fact that by letting visitors to the State Fair see what he can produce and go back to the East and tell of what they have seen he enhances the value of his farm and of his prospective income. It is true he may not want to sell his farm and may want to leave it to his children after he is through with it, but that is one more reason why he should desire to enhance its value. The greater the increase of population he can aid in bringing into the State, the greater number there will be to consume his hay, his grain and his livestock and the greater portion of them will be consumed in the home market, which means better prices and less expense.

He, then, above all other men, should take an interest in the State Fair and avail himself of his golden opportunity to advertise himself and his products to the best advantage. He may say he cannot afford to do it, and perhaps as an individual he cannot, but on the other hand, he cannot afford not to. Under the present law of the State the Boards of Supervisors have power to levy a tax for advertising and immigration purposes. The tax costs him but a few cents, but can be made the means of bringing back to him many dollars. An appropriation by the Boards of Supervisors for a county exhibit at the State Fair will give to individuals the desirable privilege of advertising their productions to the best advantage and could be in most counties easily secured by a little concerted effort by the Granges and the farmers themselves. Now is the time to ask for it and to begin to prepare the exhibit, so that it may be a creditable one and strive to place the county in the front rank, or at least to show that it is a desirable place to live in.

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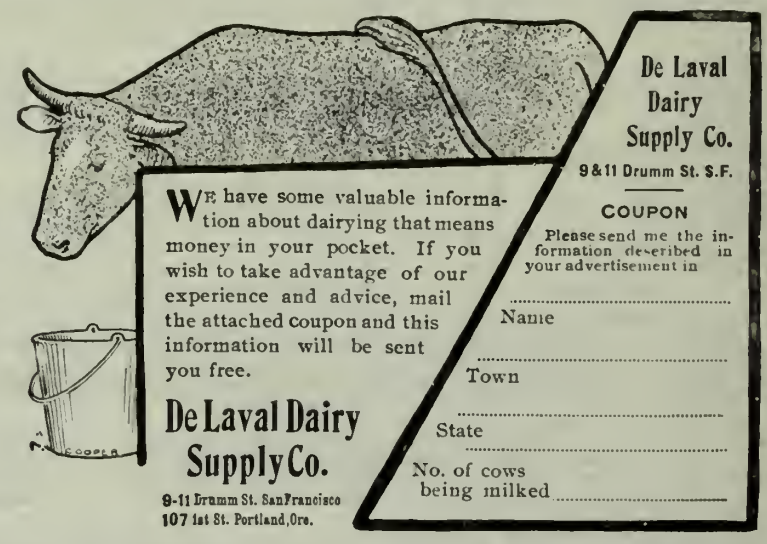


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solve the Blower problem. They successfully elevate ensilage into silos up to any height, as demonstrated by abundant proof in catalogue. **10** and **12** H P. Engines drive Nos. 13, 16, 18 and 19 Cutters with blowers, and all other sizes "Ohio" Ensilage Cutters. In capacity "Ohio" Cutters lead; 10 to 30 tons per hour. **1904 Shredder Blades** (patent applied for) are interchangeable with knives, all sizes. They put corn stalks into best condition for feed, running at normal speed.

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FORESTRY.

Eight Years of Drought.

The disastrous result of eight years of drought in a region that has only a limited water supply is the most impressive lesson contained in Professional Paper No. 23, recently published by the United States Geological Survey. "Forest Conditions in the Black Mesa Forest Reserve, Arizona," is the title of the paper, which was prepared by Mr. F. G. Plummer from notes furnished by Messrs. Theodore F. Rixon and Arthur Dodwell.

The reserve comprises an area of 2786 square miles and includes parts of Yavapai, Coconino, Gila, Navajo, Apache and Graham counties, Arizona. It is an irregular strip of land running from central Arizona in a general southeasterly direction to the New Mexico boundary. It follows and lies principally upon the north slope of the Colorado-Gila divide. The character of this divide, known as the Black Mesa, is that of a southward-facing escarpment of nearly perpendicular rock, 1500 to 2000 feet high, which is inaccessible, except in a few places, to the most daring climber. It is the south edge of the great Colorado plateau. The topography of the reserve is in general rough and broken, though the southeastern portion is more rolling, with several high plateaus.

Water is very scarce. Eight years ago the reserve was comparatively well watered, but successive seasons of drought have rendered it exceedingly dry, and unless a change for the better occurs cattlemen and sheepmen will desert the country. Numerous small areas were once profitably farmed, but in recent years the lack of rainfall has caused a marked decline in agriculture. Grazing, the main industry of this and adjacent regions, has also suffered greatly from continued droughts. The only remaining areas which are used solely for cattle range are on the Blue and Salt rivers and Eagle creek. The best growths of wild forage grasses are nearly always found at some distance from water, and are consequently not available for live stock, which are unable to make the trip from water to pasture.

The Verde slope, in the Beaver creek watershed, is an example of repeated overstocking. This district was formerly a source of great wealth to settlers in that vicinity, but the excessive number of cattle and horses grazed in it has finally resulted in the complete annihilation of the pasture. Unless stringent rules are adopted to regulate the number of stock and the areas on which they shall be grazed on each permit, this condition will sooner or later prevail throughout the reserve.

Yellow pine is the principal timber tree of the reserve and the only lumber at present used for manufacturing purposes. The drought of the last eight years has affected even trees like the yellow pine, alligator, juniper and Arizona cypress, which, as a rule, stand dry weather as well. Hundreds of thousands of feet of lumber will be lost unless immediately logged.

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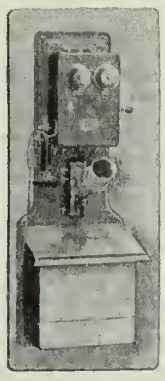
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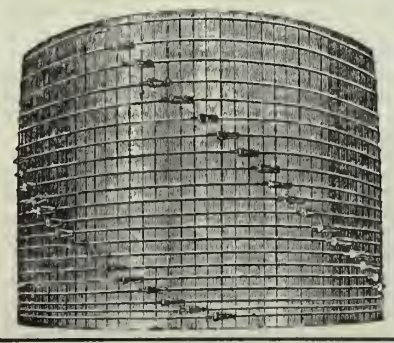
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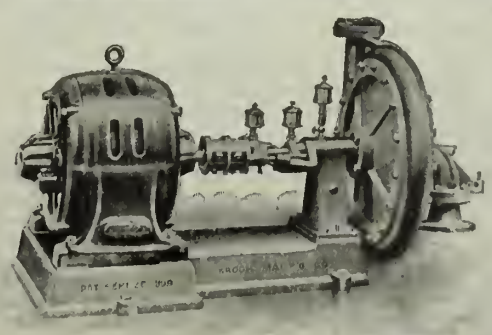


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AGRICULTURAL SCIENCE

A New Farm for the College of Agriculture.

At the meeting of the board of directors of the California Livestock Breeders' Association reeently held in Sacramento, a bill was drawn, whieh will be submitted to the Legislature, providing for the purchase of a farm, to be known as "The University Farm," which shall be under the control of the Regents of the State University, whieh shall consist of not less than 250 aeres of the best agrieultural land in the State, and which shall be used in conneetion with the Department of Agrieulture of the University.

It is proposed to eonstruet the eollege school and farm buildings along modern, model lines. The Livestoek Breeders' Assoeiation has a large membership in all parts of the State, and the bill will be pushed along in the Legislature with all the power of the organization.

Needs Set Forth.—At the meeting of the direetors the following preamble and resolutions, setting forth the needs of the proposed Agrieultural College and Farm, was adopted by a unanimous vote:

Whereas, There is an urgent necessity in California for a comprehensive system of agricultural education whereby the youth of this State may be educated and trained in the science and practice of agriculture, and by which a taste for the pursuit of practical agriculture may be inoculated; and,

Whereas, California, possessing the most intricate and most varied of agricultural resources, has done less for education along these lines than any of our leading agricultural States, to the injury of our social and commercial intercsts; and,

Whereas, There is a general demand on the part of the productive and commercial interests of this State for the commencement of such educatior on a scale eqnal to that of our progressive States; and,

Whereas, A bill has been proposed calculated to carry this purpose into effect. Thcrefore be it

Resolved, That we demand at the hands of the Legislature at its approaching session the passage of such a bill appropriating a sufficient sum to accomplish such purpose; and be it further

Resolved, That we approve of the following proposed bill hereinabove referred to and heartily recommend it to the said Legislature, and respectfully request its passage by said body.

The bill is as follows:

Text of the Bill.—An Act—Providing for the purchase of a university farm, and the location thereon of a Department of the College of Agriculture of the State of California, providing for the appointment of a commission to selcct and purchase said farm, providing for a system of instruction in said department, and appropriating money therefor.

The people of the State of California, represented in Senate and Assembly, do euact as follows:

Section 1. Immediately after the passage of this Act the Governor shall appoint a commission of four persons, who, together with himself, shall be known as the "commissioners for the selection and purchase of a university farm." Said commission shall consist of and be appointed as follows: The Governor of the State of California shall be ex-officio a member thereof, and the president of the commission; the Governor shall appoint as the remaining four members of said commission the president of the University of California, the State Commissioner of Horticulture of California, the Chief Justice of the Supreme Court of the State of California, and the president of the State Board of Agriculture. Said commissioners shall hold office until they have performed the duties hereinafter provided for. They shall receive no compensation, but the expenses of their qualification and necessary traveling expenses shall be paid out of the moneys hereinafter appropriated.

Purchase of the Farm. — Sec. 2. Immediately after the appointment of said commissioners they shall organize and proceed to select and purchase a farm or tract of land to be known as the University Farm, and to be used as an agricultural college farm, and for the site or location for college buildings and such other building and structures as may be necessary for use in connection therewith, and for the purpose herein set forth. Said farm or tract of land shall contain not less than 250 acres of land, and shall be located at such place as said commission may deem proper, having consideration for the purposes for which it is to be used. It must be first-class tillable land, and in its soil, location, climate and general environment be typical and representative of the best general agricultural conditions in California, and be capable of successfully producing the general crops of the State, and as many as may be of all of the crops and products successfully grown in California. Said commission shall pay for said farm not to exceed $30,000. For the purposes of securing or purchasing said farm said commission shall have the power to take and secure options, or bonds for deeds, and may accept a gift of the whole or any part of said farm. They may also receive gifts of water rights or other rights or appurtenances to any farm which they may select, and may also purchase any such water or other rights, provided they pay therefore no sum which, together with that paid for the said farm, shall exceed the said sum of $30,000.

Will Be Deeded to the State.—Sec. 3. The deed for said farm or tract of land, or other property purchased, shall, when the same shall have been purchased by said commission, be taken in the name of, and the deed shall be made to, the State of California. When said commission shall have selected and purchased the said tract or farm or other property herein provided for they shall present their claim for the amount or sum agreed to be paid therefor to the State Board of Examiners, and upon the allowance of said bill or claim the Controller shall draw his warrant for the amount thereof, payable out of the sum hereby appropriated in favor of the owner or owners of the properties selected and purchased as hereinabove provided for. Said warrant or warrants when so drawn shall be delivered to said commission, which shall use the same to pay the purchase price of said farm or tract or other property, taking a deed therefore as aforesaid, the same to be delivered to and filed with the Treasurer of the State of California.

Regents in Charge.—Sec. 4. The said University Farm, when purchased as aforesaid, shall immediately be given into the possession of and shall be under the management, direction and control of the Board of Regents of the University of California. Immediately upon obtaining possession of said University Farm said Regents shall proceed to have constructed thereon such college buildings and such other buildings and structures as shall be necessary for the use thereof for purposes of education in agriculture. They shall provide for the purchase of apparatus, the planting of trees and vines, and forage and agriculture crops, and for the purchase of domestic livestock. They shall provide for such departments a faculty, and inaugurate and provide for the conduct therein of instruction in practical and scientific agriculture, and in such other branches of learning as are allied thereto, and as are calculated to better qualify and inform the students attending thereat of the theory and practice of agriculture.

Parts of the University.—These departments shall be conducted in connection with and as parts of the College of Agriculture at the University at Berkeley, provision being made by such Regents for such attendance on the farm of the college students as may be deemed best and necessary to the completion of their college courses.

The University Farm shall be so conducted as to meet the wants of the youth of this State for instruction in agriculture and to prepare them for its pursuit; also, for the conduct of experimental and investigational work.

The course of instruction in the departments on the farm shall be so administered as to provide for thorough training in the theory and practice of agriculture.

Short course of instruction shall also be arranged for in each of the leading departments of agricultural and livestock breeding, so regulated as to provide for popular attendance and general instruction in agricultural practice.

Appropriation.—Sec. 5. The sum of $125,000 is hereby appropriated for the purposes of this Act. The commission hereinabove provided for shall draw against said appropriation as hereinabove authorized. After such sums have been paid therefrom the remaining portion of said appropriation shall be subject to the order of and shall be paid to the said Board of Regents for the purposes of this Act.

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"IN A MODEST WAY" we tell you of our ability to give you the best for the least money in

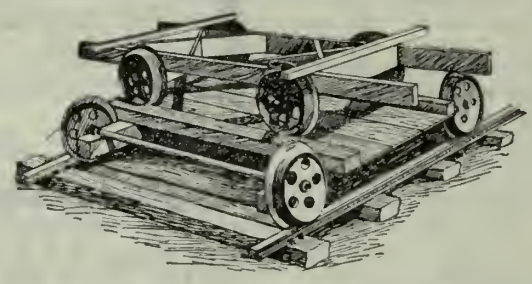
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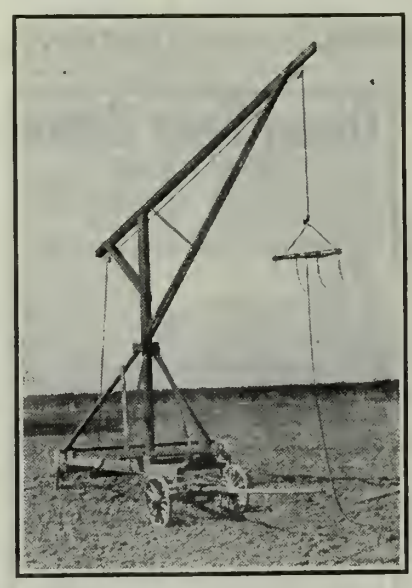
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The Latest Advance in the Parcels Post Service.

TO THE EDITOR:—Some doubt was expressed a while ago as to whether the parcels post, if introduced here, would be of any considerable benefit to our farmers, gardeners, fruit growers and others. To show its possibilites let me state that one English firm of seedsmen sent out in two days, by parcels post, no less than 70,000 packages, paying postage dues therefor $4375.

The English postoffice has recently undertaken, not only to remit such parcels as are delivered at its numerous stations, but to collect the same from out-lying farmers, gardeners and others living on its rural delivery routes; and these routes may be said to cover the whole of the country. As will be seen from the subjoined account (kindly furnished me by a friend in Sacramento), the service is practically unrestricted, provided proper notice is given of any exceptionally large numbers of packages to be handled at any given time. Here is the account of what is now done, taken from the Illustrated Mail of June 11, 1904.

An important and useful concession to the rural population is announced hy the postoffice. It will now he possible for those who live in places quite remote from postoffices to hand parcels to the postmen for transmission.

A rural postman, whether on foot or mounted on a hicycle or tricycle, is to accept parcels tendered to him, provided that he is not already fully loaded, and that the weight of the parcels handed hy any one person does not exceed eleven pounds. If the sender's consignment is likely to exceed this limit, arrangements will he made for its collection if a day's notice is given.

If the postman uses a horse and cart he will he allowed to accept any number of parcels, provided he can conveniently carry them in his vehicle.

When these conditions do not apply the sender has yet another opportunity, for he has only to proceed to the nearest country letter-hox at the time appointed for clearing, and the parcels may then be handed over to the driver of the mail cart, who, however, is not required to weigh the parcels or to check the postage.

For the accommodation of farmers, market gardeners, and those who are in the habit of regularly despatching goods hy parcel post, special further arrangements have been made, and in cases where a sufficient number of parcels is regularly sent there will he, if desired, a direct collection from the premises every week day or on certain specified days each week.

I think every one of your readers is more than fully convinced how great a boon such a service would be to us all, individually and collectively. This boon seems quite possible of attainment for other nations. I wish they would ask themselves seriously the question "Why not for us?" and then "Why not now?" Our great national opportunity occurs this year. "Glittering Generalities" will dazzle vast auditories. The usual "tweedledum and tweedledee" will have their most important differences explained to the applauding factions, and, whichever party comes out on top, the old order of the day, "All the traffic will bear," will be once again all-pervasive.

To accomplish a different result, what is required?

First, that the people know what they want.

Second, that they find representatives who will give them what they want.

Failing this the 'crats who supply the grease for the party machines are sure to know what they want and are sure to have candidates slated who will deliver them the goods.

And as for us farmers we go yet again "like sheep to the slaughter."

EDWARD BERWICK.

Pacific Grove, July 10.

For Fleas in the House.

An Illinois subscriber sends us the following as a Texas remedy for fleas: Put salt on the floor for several nights in succession.

Milking Cows by Electricity.

S. P. Warner, consular agent at Gera, Germany, writes that in the newly invented apparatus for milking cows by electricity rubber hoods are attached to the udder of the cow. These hoods are connected with a vessel for receiving the milk by means of a rubber tube, from which the air is exhausted by means of the electrical device. It is claimed that the suction thus secured resembles very closely the sucking of a calf, and that for this reason the cow "lets down" her milk more freely than when milked by hand. It is also claimed that absolute cleanliness of the milk may be secured when this method of milking is employed.

Vaccinate Now
AGAINST
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CUTTER'S are the lowest priced *reliable* vaccines made and are cheaper to use than even free vaccines would be, because they afford greater protection.

Write for descriptive literature, testimonials and prices.

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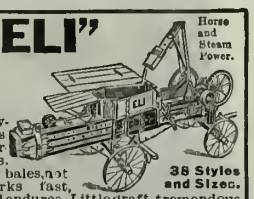
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Do you want one that will improve your herd—one with strong official backing on both sides? The sire is half the herd. It is important that you use a good one. We have a choice lot of them. Let us send you one. Remember, our herd contains a larger number of cows with official records than any other herd in the world. PIERCE LAND & STOCK CO., 14 Turk Street, San Francisco, Cal. Ranch, Rough and Ready Island near Stockton.

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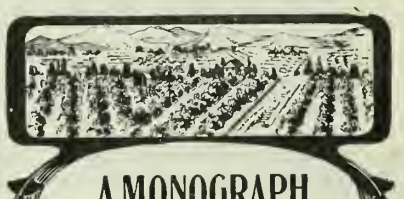
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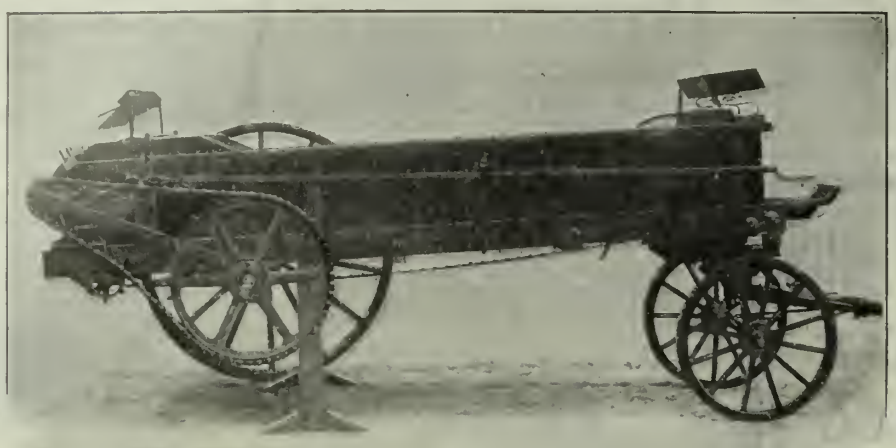
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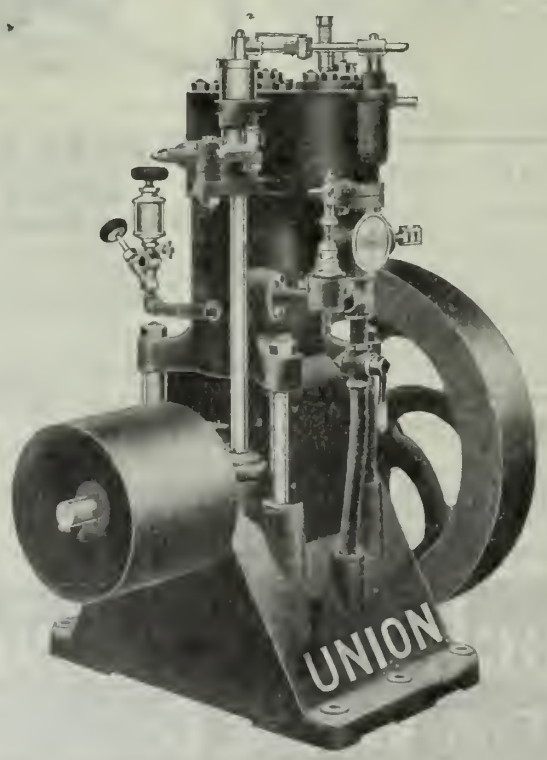
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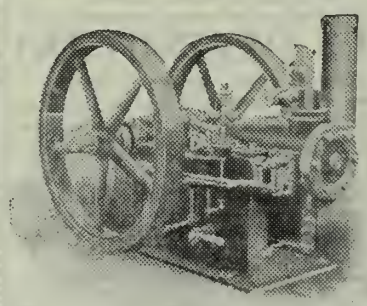
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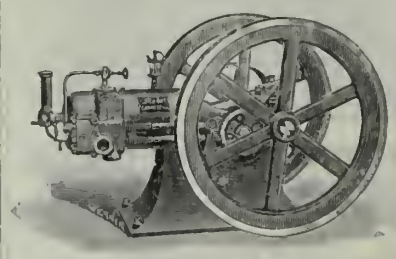
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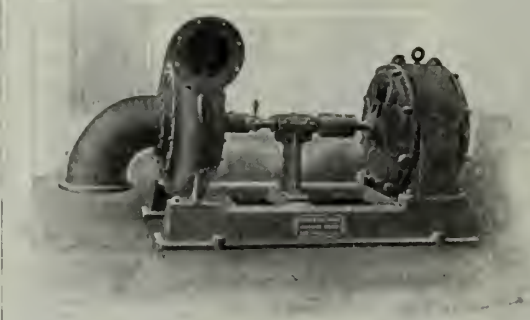
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Vol. LXVIII. No. 4. SAN FRANCISCO, SATURDAY, JULY 23, 1904. THIRTY-FOURTH YEAR. Office, 330 Market St.

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On a San Joaquin Stock Ranch.

We select a bunch of pictures for this page which are directly illustrative of the bright writing on "Shorthorns in California," which has occupied a number of columns in each issue of the PACIFIC RURAL PRESS during the current month, and which reaches a close this week. We are glad to give prominence to such discussions as the writer of the series indulged in because we are always on the outlook to promote stock growing and general farming in California. We have our grand fruit interests, and they have reached such expansion and attainments that the chief service to be rendered now is to note the development and be as useful as possible in setting forth facts which are helpful to the fruit growers.



The Fox Hounds.



Ample Water Supply.

It is not necessary to exhort to planting because Californians have learned to plant and will plant from this time forward until the State reaches a value and volume of product of which the present achievement is little more than an intimation.

To plant well, to protect effectively, to produce acceptably—these are the things which the special journal has to help the growers to do, and to this we give constant and conscientious effort. But our relation to the stock industries is intentionally different. In this branch we are enthusiastic promoters because we believe it will be for the good of the State that much more be done, and that it shall be better done than the present disposition is. Therefore, we work enthusiastically with those who develop creditable breeding enterprises and prepare to people the great areas which still remain for high-class stock farming, with the types of animals which will yield best because they have ability and power to do so, bred into them by generations of men who have labored intelligently toward the shaping of animals in ways which seemed to them good. The excellent writing on Shorthorns in California has been welcomed to our columns not only because it has recorded good things done, but because there is a wide suggestiveness in it all which reaches beyond the excellence of any breed or any single breeding establishment. The writer of the series is strongly Shorthorn in his preferences, and that is right, because it involves truth to his convictions; but, of course, the PACIFIC RURAL PRESS is wider in its profession of interest because it is manifestly our duty to promote the interests of all worthy breeds, because all which are adapted to our conditions can add notably to the diversification of our agriculture and to the prosperity of the State. Let those who believe in other breeds set forth their observations and conclusions as interestingly as has our contributor on the Shorthorns and they will find a ready and appreciative audience.



A Grand Irrigation Canal.



Shorthorn Cows at Home on Quinto Ranch.



Trio of Spicy Bull Calves.

The pictures on this page, although they present scenes on the Quinto farm described by the writer, are also widely interesting and suggestive. They speak of the grand provision for stock thrift and comfort which the developments of the last few years have distributed so widely over the great interior valley. The ample water supply, not only that running in natural streams, but carried for scores of miles in great canals which rise to the dignity of perennial streams, is giving the interior valley a carrying capacity for stock beyond all dreams of a generation ago. We hope the pertinent writing we have printed will stimulate many toward the kind of investment we have praised.

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E. J. WICKSON ..... Horticultural Editor

SAN FRANCISCO, JULY 23, 1904.

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The Week.

As the season advances the ill effects of the very uneven distribution of rainfall last winter becomes more apparent. The fruit crop is irregular and grain crops, as a rule, light. Whatever compensation is realized is in the line of prices which are generally good and profitable. The canneries cannot get fruit enough this year for a full pack and some of the establishments will not open this summer. This is unfortunate in view of the cleanup of last year's pack and the large demand for this year's, but possibly it will be well on the whole to have an easy year and good readiness for the next. The cool weather of the last week resulted in slow ripening and this favored handling. There will probably be less fruit wasted this year than for years before. Quite in contrast with our summer weather there came the last week at the East the usual period of prostrating heat with its attendant evils, from all of which, fortunately, Californians escape.

Wheat has been on the up grade since our last report, though neither charter nor clearance has been reported. The situation is intrinsically strong, based upon the light world's supply. The Chicago market has fluctuated, but closes ahead of last week, and values here are higher also. Barley is firm, with choice barley worth more and brisk buying going on in the country. Oats are unchanged, but firm and in good demand. Large white beans and Limas are going East and are firm, with Limas slightly higher and pink beans are looking up. Bran and middlings are unchanged and rather heavy. Hay is weak, except fancy wheat for stable use; receipts are heavy and demand slow. Beef is unchanged and quiet; mutton slightly lower with freer receipts; large veal is in excess, but small veal in demand; hogs are steady. Fancy creamery butter is lower in competition with the recut square from Eastern cubes, while second grade butter moves fairly.

Eggs are unchanged, with fancy high and brisk while others drag. Cheese is steady, in good demand, and stocks light. There is an excess of young poultry, but large fat hens are doing better. Potatoes are quiet and easy under a light supply. Onions are in light receipt and higher—red onions are closing out. Fresh fruits generally are in moderate supply and prices better. Citrus fruits are not notable in any way. The dried fruit market is favorable for everything but prunes, which are low, though movement of old prunes continues in considerable amounts. Almonds are firm, and buyers anxious to get stock. Honey is generally quiet, though firm for water-white. Hops are quiet, and wool strong as ever, but trade is light in absence of offerings.

A report has gone forward this week from the Department of University Extension in Agriculture at the University of California to John Hamilton, the Government specialist in farmer institute work at Washington, D. C., showing that the work has been pushed to unusual attainment the past year in California. Out of the fifty-seven counties in the State forty-one had farmers' institutes — a gain of twelve new counties which had not hitherto been included in the circuit of the University professors. There were 113 institutes, making a total of 380 sessions, with a grand total attendance of 43,680, a number which exceeds last year's figures by nearly 20,000. The regular State staff consisted of twenty-five speakers, ten members of the agricultural experiment station staff at Berkeley, and fifteen special lecturers. The University instructors have contributed 340 days of their time to the work, or an average per man of over a month. The local speakers at the different institutes aggregated 226. The total cost of the farmers' institute work this year has been $7234, and the same sum will be spent for the next year. This sum pays the expenses of all the speakers and the salaries of the special lecturers. The University men receive no extra compensation for their services, which are added to their regular instructional and experimental work at Berkeley.

Another word or two must be said about the proposition to increase the gluten content of California wheat which the State Board of Trade has undertaken to promote. Misapprehension is rife because in the present disposition of all newspaper writers to discourse upon agricultural subjects, of which some of them naturally have scant knowledge, the impression is produced that the great commercial product of California wheat is of the wrong type and therefore something must be done to redeem it. This is a great error. California wheat is in great demand in Europe because it is a white, starchy wheat, prized by European millers for mixing with the dark wheats commonly grown in Europe. Improvement of California wheat in the way of securing larger, plumper kernels, is to be desired, but to hold its demand abroad it must still be a white wheat; it must not change in type from that to which it now belongs. If the State Board should succeed in making the prevalent type of California wheat dark it would be a great disaster to our export trade. Fortunately it cannot do this for, as we stated last week, the interior climate makes white wheat sooner or later of all that is introduced to that district, no matter what its color may be, but to disseminate dark varieties in the chief producing regions would result for a time in a Dolly Varden grain which would reduce value for export and therefore should not be undertaken. What that trade needs is better white wheat and varieties already developed on white lines should be chosen. Of course it should be understood that the local milling interest needs wheat with more gluten: just as in Europe the millers need wheat with more starch. In order to make fine flour for local use or export more gluten should be present than the white wheat of California contains. Therefore the millers are all right, from their point of view, in urging the State Board of Trade to promote a wider local growth of dark wheat, and the Experiment Station is also right in working to that end. The greater our flour exports can be made the greater the local need of wheat with more gluten. But the local milling interest should be served without bringing confusion upon the exporting interest. There would probably be no sensation about it at all were it not for the yellow writers who have not understood the bearings of the proposition which the State Board of Trade has taken up and haste to unsettle the public mind by a sweeping condemnation of the great wheat product of the State and claim that its type should be changed. We trust we have made the matter clear enough so that the sensational agricultural writer—though somewhat deficient—may not err therein.

QUERIES AND REPLIES.

That Alfalfa Meal Project.

To the Editor:—Can you give me any information concerning a mill that is being used somewhere near Fresno to make a sort of meal of alfalfa hay. I saw quite an extended article concerning it in one of our daily papers. Unfortunately I mislaid the paper, and am unable to get any further information on the subject. If what was claimed for the process, and the quality of the product be facts, the results will be of great value to the State.—Enterprise, Oakland.

We also saw the current newspaper account of the Fresno proposition to grind alfalfa into a sort of a meal. We have no doubt whatever that alfalfa can be cheaply put into this granular form, providing it can be economically dried sufficiently to grind well, and this would not seem to be difficult in the Fresno summer weather. The claim made for the alfalfa meal is that it can be cheaply put into small bulk by great compression; that it has all the nutritive value and all the nutritive qualities of alfalfa hay, and that perhaps it could be more readily eaten and assimilated by the animals. These claims are probably all true, but the difficulty in making such an enterprise profitable would be in convincing the people of the facts and inducing them to pay a higher price than they do for alfalfa hay in its ordinary form. Probably sale for the article could only be compassed by systematic and extensive advertising. If this recourse to advertising could be made profitable, as it has been in the case of the numerous breakfast foods, by creating a great demand for them, the enterprise would pay, but whether it would work out in this way can only be told by experience. We apprehend that it would be very easy to make considerable investments in grinding the hay and in promotion of the production without adequate returns because of the indifference of the public. The chief sale, as it seems to us, would be among poultry keepers in places where alfalfa does not grow readily, because they are at the present time using considerable quantities of alfalfa hay, which they buy in the interior valley and put up for themselves, soaking it and adding it to the ration prepared for the fowls. If extravagant representations are made of the superior nutritive quality and advantage of alfalfa meal, such as are commonly made in the case of breakfast foods, the demand created would soon fall away, because, although people seem to be quite easily wheedled in the matters of their own food or medicine, when it comes to feeding animals for profit they are very conservative and careful. Of course, no one can tell in advance to what an extent such a proposition as alfalfa meal can be profitably carried, but we should be cautious about founding great anticipations upon it.

Root Knot — Resistant Vines.

To the Editor:—A large number of the prune trees on my fruit ranch are afflicted with the root knot. Many have already died from that cause and many more are dying. In looking over a recent report from your department I found that you recommend cupric sulphate. Is it necessary to apply the solution to all of the knots at the crown of the roots or only to some of them? Also, would it be wise to set out grape vines in the places from which the trees have been removed without treating the earth to quicklime? In other words, is there any danger of the disease attacking the roots of the grape vines?

I am contemplating setting out several acres in vineyard, but am in doubt whether to set out Le Noir or Repestris St. George as the resistant stock. I have several vines of the Le Noir and therefore it would be cheaper for me to secure the cuttings of the stock. Kindly advise me as to which is the better for resistant purposes?—Planter, St. Helena

If your trees are not very much reduced by the root knot, the knot can be successfully cut away with a hatchet or mallet and chisel and the wound saturated with the Bordeaux mixture. Cupric sulphate without the addition of lime is too dangerous, as it is apt to kill the bark beyond the affected part and thus destroy the tree. Bordeaux mixture, however, is safe to use when wounds are made by the removal of knots. If the tree is badly injured and the knots seem to have gotten ascendancy over it, it is probably better to remove the tree. Grape vines are affected by a knot similar to that upon the trees, but whether they are from identical cause or not has not yet been fully demonstrated. The use of lime, the careful re-

moval of all fragments of the knots and affected roots in digging up the trees would certainly reduce the danger in the case of subsequent vineyard planting.

Whether Le Noir or Rupestris St. George is the superior resistant stock for you depends upon your conditions of soil, moisture, etc. At present the Le Noir, although its resistance to phylloxera is less than the Rupestris, is gaining in popularity because it seems to be the most resistant of the Anaheim disease, and because in your part of the State there are many instances of the successful use of the Le Noir. The question is one which cannot be answered in a general way, because the answer depends upon local conditions. At the present moment, if you have evidence that the Le Noir is a vigorous grower with you, we should be inclined to prefer it if we were in your place.

The Farmer's Home Life.

TO THE EDITOR:—It is my desire to familiarize myself along agricultural lines, with a view to studying farm conditions and to come, if possible, into close touch with the farmer himself, which will naturally give me an insight into his home life. Can you tell me the best way to approach this matter?—INVESTIGATOR, Los Angeles.

The best way to familiarize yourself with farm life is to live it. The only way you can get into close touch with the farmer himself and his home and farm activities is to share his life. This you can do by hiring your time to a farmer and if possible find one who will receive you into his family, as hired farm laborers are often received at the East, and then for fear of getting a one sided view you should pursue the same course with another farmer and continue the operation until you conclude that you had lived with nearly all styles of farmers that there are, or at least until you have had experience and observation with a number of different types. This seems to be not only the most trustworthy, but at present a very popular method in conducting investigations. Men who wish to study tramps become for the time being tramps themselves. People who wish to investigate the condition of laboring men in factories don their overalls and become laborers themselves for a season. We doubt if there is any other way to arrive at the inside facts in the case.

What Can be Worked on Almond?

TO THE EDITOR:—Can you give me any information as to the wisdom of grafting cherries onto almond trees; will the work be a success? I have large almond orchard, but get no almonds. With what can I graft the trees to get the best paying fruit?—READER, Oakland.

You cannot work cherries upon almond trees. You can graft or bud-in peaches and most kinds of plums and prunes; apricots will not unite well. In order, however, to reach satisfactory results with growing other fruits on your almond stocks, you must be sure that the trees are thrifty and that they can count upon enough moisture supply to ripen these pulpy fruits, which make a greater requirement upon moisture than does the bearing of an almond. Not only are the fruits more pulpy, but most of them require activity of the tree later in the season, and this also a greater requirement of water. All these things have to be considered in connection with the proposition which you advance.

When Grain Fails After Sorghum.

TO THE EDITOR:—I have a farm in the Imperial valley, located in soil of about medium hardness, and practically no alkali. I now have it in a crop of Kafir corn, and desire to follow this with grain this fall, but my man tells me and others confirm it that grain will not do well after Kafir corn, even though the land be thoroughly plowed and disked. I would like to know if anything of the kind has come to your notice and, if so, what is the reason therefor and what can be done to counteract the apparent bad effect of the corn. I cannot explain it myself, as in other places grain seems to do all right following corn if the corn stubble is properly plowed under. The only possible way I can explain it is this, viz., the land has never been plowed—the corn was disked in—and it is possible that the land turned up by the plowing is not properly aerated, but this is simply guess work. I should be glad to hear if this has been called to your attention before.—FARMER, San Bernardino.

The reason grain sometimes fails after Kafir corn is due to the fact that grain thrives best upon what is termed a firm seed bed; that is, a lower soil which is compact enough to retain moisture while the surface soil is loose enough to check evaporation. The grain roots then establish themselves in the former layer with ample moisture and make satisfactory growth. If the trash of Kafir corn is plowed into the soil it interferes with this arrangement and loosens up the soil to such an extent that even if irrigation is employed heat and dry air enter so readily that the grain roots are, as it is said, burned up and growth fails. The lighter the soil and the higher the temperature the greater the danger. It is possible on somewhat heavier bottom lands, quite moist, to plow in Kafir corn stubble and have it decay quickly and not produce the condition first mentioned, but we should expect that in the Imperial country the ill effects of plowing stubble into light, sandy soils would be like that in the San Joaquin valley, or worse than that. The finer the Kafir corn stubble is disintegrated the less the danger, and if it would be practicable to harrow it out and burn the stubble, the trouble would largely disappear, but this is usually expensive. Turning hogs into the stubble is resorted to for the purpose of disintegrating the stubble and reducing its ill effects when the ground is to be subsequently used for grain.

Fall Pruning of Peaches.

TO THE EDITOR:—I have an orchard of peach trees that need cutting back heavily. How would September and October do? Would irrigation about that time be any benefit to them in the forming of fruit buds or otherwise?—SUBSCRIBER, Chico.

If the trees are sufficiently dormant to favor cutting back in the fall, they cannot be helped to bear fruit by irrigation, because their growth for the season has practically ceased. If, however, the soil is seriously dried out, as might be inferred from the early dormancy, a little irrigation would help them to meet the fall evaporation. But if you generally have rains in September or October, this would render irrigation for this purpose unnecessary. In fact, irrigation at that time should not be resorted to if it can be avoided, except in the upper parts of the interior of the coast where the drouth may be severe and the temperature low enough to prevent a fresh start of the sap. In California there is too much danger of awakening the tree because the fall if dry is apt to be warm also. One can safely do the ordinary cutting back of the peach in the fall if the foliage has passed its usefulness, but extra heavy cutting, like removing part of the old growth, is most safely done in the latter part of the winter just before growth starts, because stubs made in the fall are apt to die back and the exposed wood to check deeply.

Erinose of the Vine.

TO THE EDITOR:—I enclose you leaves from old Mission grape vines. This is the first year I have noticed any of this; the vine is spotted all over with it. It seems to be worse on heavy bottom land. What is it, and is there any spray that will do any good? How about lime and bluestone—is it good for vines?—A SUBSCRIBER, Cloverdale.

Your vine leaves show "erinose." The discoloration and the swellings shown on the upper surfaces of the leaves are caused by a mite which is a near relative of the "blister mite" of the pear tree. Fortunately, this mite does not often do serious injury, except when its work is combined with the injury done by mildew. Your vines do not show mildew. When vines are sulphured for mildew, the mite is also held in check. Sulphuring, then, early in the season is likely to protect the vines from both injuries. In bad cases it may be well to use the winter treatment employed by the French, and that is to pour a quart or so of boiling water over the vine stump to kill mites or eggs which may be wintering there. This trouble was fully illustrated and described in the PACIFIC RURAL PRESS of Dec. 21, 1901, or you can get a bulletin on the subject by sending to the College of Agriculture at Berkeley.

Perennial Grasses for River Bottom.

TO THE EDITOR:—Will English rye grass thrive in this climate on river bottom land without irrigation, and would not a mixture of deep-rooting grasses, say, of English rye, Meadow Fescue and Tall Oat grass, be better than either alone for a permanent pasture?—SUBSCRIBER, Merced.

Yes to both your questions, providing you do not have so much sand in the soil, so that summer heat and drouth destroy the roots. With a clay or clay loam there will be retention and capillary action to retain the life in the root and early start in the fall. In most places some red or white clover would be of advantage. The English rye (which is the same as Australian rye) and Tall Oat are proven to be valuable here; Meadow Fescue has no record as yet.

WEATHER AND CROPS.

Report of the U. S. Weather Service for Week Ending July 18, 1904.

ALEXANDER MCADIE, Forecast Official and Section Director.

Sacramento Valley.

Cool weather continued during the week, but conditions were generally favorable for crops. High southerly winds caused some damage to pears and other fruits at Palermo. Fire destroyed considerable grain and much pasturage in Glenn county. The cool weather is retarding the ripening of deciduous fruits, but this is not considered detrimental. Prospects are good for a large crop of pears and a fair yield of prunes, but peaches, apricots and apples will be light. Heavy shipments of pears were made from Sacramento during the week. The almond crop is reported large in some sections. Grapes continue in excellent condition and will probably yield one of the heaviest crops for several years. Grain harvest is progressing and is nearly completed in some sections. Wheat and barley are much below the average in yield and quality. The heavy hay crop is mostly disposed of. Hops are making good growth. Dry feed is still plentiful.

Coast and Bay Sections.

The temperature was considerably below normal during the week. Fogs prevailed in the coast districts and light rain fell on the 14th in the section from San Francisco northward, with heavy rain at Willits. Grain harvest is progressing and a fair yield is reported, especially in the southern districts. Hay baling continues; the crop is large and quality excellent in all sections. Hops, beans and corn are ding well, but would be improved by warmer weather. There are some reports of mildew on grapes in Sonoma county, but no serious damage has been done, and prospects continue good for a heavy crop in all sections. Deciduous fruits are maturing rather slowly. Apricots are reported light in some sections and heavy in others. Peaches, pears and apples are light and prunes fair in most places.

San Joaquin Valley.

Clear and cool weather for the season prevailed during the past week. Harvesting and thrashing grain continue; the crop is generally light. Haying continues in some sections, and baling is progressing rapidly; the hay crop is good in all sections. Grasshoppers are causing some damage in the northern portion of the valley. The deciduous fruit crop is ripening rapidly, and in the central portion the crop is good. Large shipments of peaches, plums and Tragedy prunes were made to Eastern markets. Dryers and canneries are in operation. Watermelons are plentiful, but generally below average size. Grapes are making good progress and promise an excellent crop in all sections. Water is getting low and feed scarce. Stock are healthy and in good condition.

Southern California.

The damp, cool weather during the week, with fogs along the coast, was beneficial to most crops and made frequent irrigation unnecessary. Irrigation water is holding out remarkably well. Apricot picking is progressing; the yield and quality are much below average. Peaches and apples are in fair condition and maturing slowly. Melons and berries are plentiful and of good quality. Walnuts are making satisfactory progress. Citrus fruits are in good condition in most places, but it is reported that Navel oranges will be below average. Harvesting and hay baling are nearly completed. Grain and hay have yielded very light crops. Sugar beet harvest has commenced and the factory at Santa Maria is in operation.

EUREKA SUMMARY.—Rain Thursday greatly benefited crops, but did some damage to hay; the second crop of grass is now assured. Gardens making excellent growth.

LOS ANGELES SUMMARY.—Cool nights and moderately warm days continued; nights cloudy or foggy along the coast. Heavy demand for irrigating water, on account of unusual dryness of soil. Apricots are nearly cleaned up.

Rainfall and Temperature.

The following data for the week ending 5 A. M. Wednesday, July 20, 1904, are from official sources and are furnished by the United States Weather Bureau for the PACIFIC RURAL PRESS:

CALIFORNIA STATIONS.	Total Rainfall for the Week	Total Seasonal Rainfall to Date	Total Seasonal Rainfall Last Year to Same Date	Average Seasonal Rainfall to Date	Maximum Temperature for the week	Minimum Temperature for the week
Eureka	.66	1.19	.06	.06	62	46
Red Bluff	.00	0.10	.00	.01	104	52
Sacramento	.00	.00	.00	T	98	54
San Francisco	.02	.02	.00	.01	66	50
Fresno	.00	.00	.00	T	106	56
Independence	.00	.00	.00	.05	96	58
San Luis Obispo	.00	.00	.00	T	84	48
Los Angeles	.00	.00	.00	.01	84	54
San Diego	.00	.00	.00	.03	70	60
Yuma	.00	.00	.00	.10	106	68

THE STOCK YARD.

Shorthorns in California.

NUMBER III.—CONCLUDED.

Written for the Pacific Rural Press.

"This yearling bull is Spicy 53rd, the roan calf you saw at Sacramento last year. Grown some, hasn't he?"

He is a beautiful strawberry roan, with a good straight back, strongly ribbed, and very smooth hind quarters—a trifle high on his legs, perhaps, to some of the other Spicys; but as his body grows this will become less noticeable. He is out of Philomena 47th and carries the Spicy head and disposition.

Standing next to him was Mystery 29th, which I recognized at once; and in her fourth year she showed all that she gave promise to. She had just given birth to a fine deep red bull calf by Royal Fashion, and will show again this year with a calf at her side. Mystery 29th, with her calves, is a typical representative of the good dual purpose cow.

"This deep red two-year-old heifer is Philomena 65th, by Spicy, out of Philomena 52nd," said Mr. Hunt. "The Philomenas were one of the best families of the old herd, and see how they breed on. Look at her good body and head and see how deep she is. We call her a good two-year-old, but there are three others here that you will like, and they are all by Spicy out of cows of the Hopeful tribe. We call them Spicy's Hopeful 2nd, 3rd and 4th."

I did like them. The first two were red with a little white and the last a strawberry roan.

"When heifers get to be of this age you can tell pretty nearly what shape they will develop into as cows, and we shall keep them all going ahead in good shape; and while we know that there have been many fine ones imported into the State this spring, our two-year-olds are going into the show ring in company with them. You know that there is no State Class at the State Fair this year. It is all an Open Class, and our California-bred cattle will compete for honors right alongside of the imported ones. Almost all the breeders of the State are of the opinion that it is a mistake not to have a State Class for California-bred cattle. It would be a greater stimulant to show. Anybody who wants to spend the time and money can buy a show herd; but we believe in trying to raise one, and that makes the taking of premiums a very happy part of the show ring and brings out our best efforts. If the whole object of exhibiting is narrowed down to the mere mercenary taking of premiums, the interest would soon die out.

"Now here are the yearling heifers and Hopeful 76th is the one that gives the greatest promise."

I looked her over carefully, for she has the making of a grand cow—deep red in color, back very straight and smooth, tail-head set low, and a very wide, intelligent forehead. As a yearling, she would suit anybody.

Next came the Junior yearlings, and of these Spicy's Diana is a little beauty. It is really wonderful to note the evenness of all these Spicys.

The oldest Royal Fashion calf was with this lot of heifers and she is a chip of the old block—a good chip and a good block, too, was my mental reservation. This heifer has two white hind stockings that give the red in her body a distinctively beautiful color. She is very handsome—a real butterball, and smooth as a peach. It will be well to watch her in the show ring.

On the other side of the paddock we found a lot of bull calves tied up in a row—five Spicys and one Royal Fashion. Four of these Spicys will be shown as the "get of one sire." They are bound to attract a great deal of attention, and I realized after seeing this fine lot of young animals the pleasure and profit to be derived from owning and breeding such a class of cattle as I had seen, and to watch the development to maturity of such animals where like was breeding like.

The many things of interest that I had seen and heard, and the particularly forcible demonstration that it was type—not breed—that should be uppermost in the mind of the successful farmer and cattle raiser, gave me ample food for thought, for I had found that I was one of those who, as Mr. Hunt expressed it, had been "off the track," and glad I was to be set right.

King Spicy and Royal Fashion are both bulls of Scotch breeding and splendid samples of the Scotch type. The Spicy heifers are smoother and heavier bodied than the older cows. That is the result of one Scotch cross. The next cross by Royal Fashion or Chief of Valley View 4th on the Spicy heifers will more firmly fix the type of these smooth, quick-maturing, easy-feeding kind that have the constitution to properly assimilate food and carry the prime meat.

"Now, what you have seen," said Mr. Hunt, "is not so remarkable from the point of view of a good breeder, and what has been done with the Quinto herd can be accomplished with other herds of good Shorthorns. We find the Shorthorns the most profitable to raise, because, as you have seen, they can be evenly moulded to a type of useful animals, good for milk, at the same time good for beef, or, by selection, use and breeding, they can produce superior individuals, having either quality predominating."

Mr. Hunt said I was to come up to the Quinto and stay with him that night and take the train at Ingomar in the forenoon, to which I agreed, and we left the alfalfa ranch for the 11-mile drive to the Quinto ranch house in the foothills.

For a mile the road lay along the western boundary of the Howard alfalfa ranch, and then for 2 miles along the same line of the Grove farm of Miller & Lux, an alfalfa ranch of 1240 acres (almost two sections) where large feeding operations are carried on. In the fields of the Grove farm large numbers of steers were grazing, many of them of the pronounced Arizona type. These were not cattle of their own raising, simply feeders of an expensive kind to have, I should judge.

South of the Grove farm is the Bunker ranch, 640 acres in alfalfa. Here is a large cheese factory, and 2 miles farther south, on the Hunt ranch of 400 acres, is the large dairy of Daly & Tilton, and 1 mile east is the Linora stock farm property of S. Newman Co., where there are many cows and a large quantity of alfalfa hay is cut for feeding.



Hopeful 76th, of the Quinto Herd.

After driving about 2 miles, we crossed the main canal of the San Joaquin & Kings River Canal & Irrigation Co. This is the largest and best system of irrigation in California. The water is taken from the San Joaquin river above Firebaughs and the main canal extends below Crow's Landing. Two smaller lateral canals have been extended on a lesser grade than the main canal and take in a large body of land that up to a year ago was without irrigation. Miller & Lux are the largest stockholders in the canal company, and also its largest patrons. There are about 58,000 acres of land irrigated by this system.

Presently we turned west and Mr. Hunt showed me in the distance the north fence line of the Quinto running straight over the hills to the setting sun.

The Quinto ranch is about 15 miles long and 6 miles wide, comprising nearly two townships and a half, almost 50,000 acres, and lies about 6 miles north of the Pacheco Pass in the counties of Merced, Santa Clara and Stanislaus. Two large creeks, the Quinto (from which the ranch takes its name, meaning the fifth creek going up the San Joaquin valley on the west side) and the Romero, run through nearly its entire length.

The southwesterly portion of the ranch lies in Santa Clara county and the watershed here is toward the Santa Clara valley. This is called the Fifield range, where Mr. Moffat saw the cow with three milkers.

We followed up the right bank of the creek for about 2 miles until we came to the Quinto farmstead, prettily located in a bend of the creek, which at this point was lined with cottonwoods. As we drove into the dooryard several foxhounds came out to meet us—the foremost was a beautiful black and tan. I told Mr. Hunt of my experience of the morning at Crow's Landing. He laughed and said:

"Why, this is some of that very Crow breed, except the dog Hickman in the lead, which is one Mr. Kittle gave to Mr. W. H. Howard; and we think a good deal of that dog. We don't get time to take them out; they run about as they please, and keep the coyotes away.

"Harry will put the team up and we will go into the house, and if you feel a little tired I have some of the 'Old Crow' breed in there, but of another 'type.'"

I laughingly told him to pour me only a 'short horn' of it. The little word play caused me to make the mental reservation that on my return to the city I would suggest to my friend Sinclair of the Butchers' and Stockgrowers' Journal, that much good advertising is being missed by not calling for a "Scotch Top" when we order a highball.

After a splendid supper, superintended and presided over by Mrs. Hunt, Mr. Hunt, his two boys and myself had a game of croquet—"Quinto billiards," as he called it—under the spreading boughs of a gigantic pepper tree in the dooryard. Then we sat smoking our pipes and talking until all the stars were out.

I found Mr. Hunt had been accustomed from early boyhood to the best classes of stock, and that in his native town in Canada there had been a good herd of registered Shorthorns, so that his ideals were the result of study and comparison since boyhood.

In the morning early I was up looking over the premises. Two of the vaqueros were just starting off to ride through the upper Quinto range, about 10 miles distant, to see how the yearling steers were doing. The horseman was breaking to drive some thoroughbred colts and had one hitched in a double cart with a gentle horse, who looked on with curiosity and amazement at the stunts the younger animal was performing.

The blacksmith shop, granary and big barn were visited. In the barn quite a lot of colts, mostly Shires, were being tied up and halter broken, and across the creek were the stud corrals, bull paddocks and breeding fields for the registered cattle when they came to the Quinto for the winter.

"I drove over some of the farming land. There is about 6000 acres, mostly farmed on shares, and on, farther up the creek, to see the fat cows that were going to the butcher. They were a very good lot, almost all were red and showed their breeding.

When we reached the house, Harry Cress, the choreman, was ready to take me to Ingomar for the train. In a few moments the good-byes were said and I was starting on my return home and thinking of the great amount of pleasure and profit that I had derived on a trip that by the time I reached the city would consume exactly thirty-two hours. Harry confided to me on the way to the train that he was going to St. Louis this fall, and that he hoped the "young fellers" (Mr. Howard and Mr. Pickering) would bring out another carload of Shorthorns, so he could come back with them. I told him I hoped they would, and they would have to bring pretty good ones to be better than those I had seen raised right on the Quinto ranch.

Ingomar is on the "West Side" road of the Southern Pacific Company, about half way between Newman and Los Banos, and is the post, express and telephone office of the Quinto, the ranch house being 7 miles due west of Ingomar.

I consulted my little guide book of the San Joaquin valley and read as follows: "Ingomar. The town is small, but in a rich and thickly populated country."

As we crossed the canal, Harry said: "Just a mile and three-quarters to Ingomar from here."

"Where is the town?" I asked, for I couldn't see any.

"Town!" said Harry, as he turned his face to see whether or not I was in earnest, "Why, they ain't no town, there's only Bradley's store and house and the grain warehouse."

And sure enough these and salt grass was all I found, and thought to myself that if I had got off at Ingomar and wound up at Newman, some of the things in my note book might seem to be the result of the transformation scene I had gone through, coupled with the brilliant imagination of the compiler of that guide book.

I boarded the train, anxious to get to Tracy and have some of that fricasseed chicken and iced tea, for it was 11.30 and pretty hot; and when I finally did get there my expectations were realized.

We came from Tracy on the "Cal. P." over "Livermore Hill," as the trainmen say, and the ride through the Livermore valley and down the Niles canyon seemed more beautiful than ever to me after the San Joaquin plains.

We reached the pier on time, and I was one of the first to board the ferry, and, taking a seat near the bow, where the bay breezes quickly dispelled from my brain the motion of the train, I sharpened my pencil and commenced this sketch, which ends here.

THE DAIRY.

Mr. Ostrander's Way With Alfalfa.

Mr. H. J. Ostrander, an old resident of Merced county, desiring that those engaged in the production of alfalfa in the colonies in the vicinity of Merced should succeed, and believing that a few suggestions from one who first seeded land to alfalfa on the Merced river bottoms nearly fifty years ago might be helpful, offers the following suggestions:

To obtain the best results the land must be put in the very best condition before seeding to alfalfa. The ground must be summer-fallowed by plowing twice, followed each time by thorough harrowing; then, after the first rains, the land should again be thoroughly harrowed, so that what foul seed may have sprouted would be killed; then twenty-five or thirty pounds of seed should be sown to the acre, followed by harrowing with a light harrow. In three weeks after the seeding the ground will be covered with a beautiful stand of alfalfa. A much better and evener stand can be had when the alfalfa is started from the rain instead of from flooding. I will say that I have been induced to write this article because of the poor results that I have noticed where the stand has been very, very indifferent—where in place of a yield of two tons per acre at one cutting the yield could not have been more than half a ton. It grieves me to see rich fertile land producing a fourth of a crop when I know the production of such land is only limited by the condition and preparation of the soil.

Another point of vital importance is heavy seeding (twenty-five or thirty pounds per acre), for with

light seeding a coarse stalk will be produced, while in heavy seeding you will have ten fine leafy stalks in place of the coarse one.

FRUIT MARKETING.

California Prunes Processed in France.

I have the honor to acknowledge receipt of a dispatch asking the exact meaning of my "statement" that "California prunes are imported to Bordeaux and there repacked to maintain the superiority of French prunes."

The following is the paragraph in my annual report which I suppose to be that referred to:

The failure of the prune crop would have entailed very serious consequences on the trade of this region but for the large stock of California prunes which were held over from last year, and the sagacious enterprise of French dealers in securing early control of this year's crop on our Pacific coast. Bordeaux is the real center of the prune trade of the world. The methods of preparing this fruit practiced here are so superior to the manipulation it receives elsewhere that California prunes brought here and repacked maintain the superiority of French prunes and are re-exported in large quantities to the United States, where they compete successfully with the American fruit which has not incurred the cost of a double exportation.

I can not imagine anything more explicit. Last year (1903), for instance, there were almost no prunes raised in this region, probably not onc-twentieth of a normal crop. The deficit was supplied by the importation of prunes grown in California and Oregon. This fact I know from having been required to make inspection of the condition of such importations and afterwards to take testimony in litigation resulting from controversies over the quality and salable character of such prunes.

Though the prune crop of this region was so small as to be almost a negligible quantity in the markets of the world—not enough, in fact, to supply the home demand—the export of French prunes was not materially lessened. A considerable portion of this exportation was to the United States, amounting to 95,000 francs ($18,335) in the last six months. I have been unable to get any information that any were shipped as "California prunes." None passing through this consulate were invoiced as such. French prunes are shipped in much smaller boxes than the California product and are so different in appearance that it would be absurd for a Bordeaux merchant to send them out to fill his orders without repacking and reworking.

The chief difference between California prunes and French prunes as they come from the growers' hands is that the latter are "cooked." I have seen a few shipments of California prunes which seemed to have undergone some sort of process to assimilate the appearance of the French prune. I do not know what it was, but official experts here concluded that the same had been steamed and some viscid substance like glycerine used to give the peculiar glistening appearance of the best French product.

The French prune is the result of moist conditions, almost always ripening in a rainy season. It is possible that this has something to do with the difference in the resuit of treatment. The French prune is allowed to remain on the tree until it is thoroughly ripe and soft. Very often a considerable portion of the crop falls of its own weight.

When picked it is placed on shallow crates, the fruit just touching each other, and the crates are then put in stone ovens raised to temperature of about 40° C. This very moderate heat is intended to remove the moisture of the fruit so gradually as to avoid breaking the skin by explosion. They remain exposed to it for several hours, according to the condition of the fruit, and are then removed and allowed to cool. When entirely cold they are replaced in the oven and the temperature raised to 80° C., and after a sufficient time again taken out and allowed to cool, after which they are replaced and the temperature raised to 90° or 100° C., the whole process occupying from thirty to forty hours.

This treatment leaves the fruit soft, so that the stone is easily slipped out, and the skin has the glistening appearance always sought for in this class of prunes. This is claimed to be the result of the saccharine which is brought to the surface by the long process of heating and cooling alternately. The fruit is thoroughly cured prunes, and is not liable to become dry or hard.

After this treatment the fruit is sorted and packed in fifty-pound cases and sold to the wholesale merchants and exporters. By these it is again sorted and put up in small boxes with various ornamentation. Those which are exported to the United States are sometimes packed in jars. They are used as sweetmeats and employed in the making of confectionery—not for cooking purposes. These require a special preparation, which is a trade secret, probably varying in character with the different manufacturers. It is believed that the California prunes are dried in the open air, or at a much lower temperature than the French prune, and so are fitted for consumption, not as sweetmeats, but only when stewed or otherwise cooked as a table dish. The smaller sizes are usually dried and used for the making of jams and other fruit comestibles.

The ovens which are used in the curing process to which prunes are submitted here are of various sorts, some being of stone and others of metal, but there is nothing special about their construction requiring description. They are simply ovens with bars or flanges to support the crates of fruit. This method of curing produces an altogether different result from the mere drying process applied to California fruit. There is no doubt that the means by which the importer of California prunes prepares them for sale or export is by a process practically of the same character. Precisely what it is I am unable to say. ALBION W. TOURGEE, Consul.

Bordeaux, France, May 31, 1904.

Davisville Almonds Concentrated.

It is written from Davisville to the Sacramento Bee that the Davisville Almond Growers' Association held an important meeting Saturday to consider a proposition of the J. K. Armsby Company in substance as follows: That the Association make the Armsby Company its selling agent and allow it 6% for selling, and that in furtherance of this plan contracts be signed and bonds prepared for the faithful discharge of the contract. After consideration the proposition was adopted by a two-thirds vote. Another meeting will be held the latter part of July, at which time representatives of the Armsby Company will be present and supply the Association with all information in their possession relative to market and crop conditions. The Association will decide upon a price for the different varieties of almonds, and the Armsby Company will then place all the orders which they may have. The agreement above referred to was entered into for the present season only, and is the same system by which the walnuts of California are handled.

The Armsby Company expresses very great satisfaction because of the consummation of the agreement, as it is anxious to get the entire output of the State into such an arrangement, and Davisville was considered the best point to take the initiative. It has the most extensive and best handled Association in the State.

W. G. Read, the almond huller builder of Davisville, explained to the Association that he has in course of construction a building which he is adapting to the purpose of the handling of almonds, such as sulphuring, cracking, hulling, grading, etc., and expressed the hope that the Association would next year arrange to send all the almonds to him direct from the orchard to be prepared for the market.

HORTICULTURE.

Purchasing Power of a Barrel of Apples.

A Missouri apple grower has written for an Eastern journal comparing the present purchasing power of a barrel of apples with that of various years past. He uses the figures to answer the question:

"Will apple culture be overdone, and what effect will it have on prices and demands in the future?"

The question, "Will it pay," is after all the most important. To answer this is like all other things of the future, necessarily speculative. The following is perhaps the best answer or forecast I can offer:

While the acreage of apple orchards has multiplied fast, yet the growing demand and increased facilities for rapid transportation, aided by the use of cold-storage, have kept pace, and all good apples have found a market.

As to prices ruling for the past thirty years since I have been in the business, perhaps the best test will be to compare the price of apples with other products and articles of merchandise, and to make this plain, I have compiled the following table, showing the purchasing power of a barrel of apples from 1870 to 1903, inclusive.

I have taken from my apple-purchasing books the average price paid for each year given, and I have secured the price of wheat and merchandise from the books of merchants. In order to save space, I give the figures for every fifth year, as it will illustrate the principle. I respectfully submit this table to all who are interested, and let them make their own deductions as to what the apple business in the future will be.

PURCHASING POWER OF A BARREL OF APPLES.
(Three bushels in a barrel.)

Year.....	Wheat, pounds.....	White Sugar, pounds..	Salt pounds.....	Nails, pounds.....	Calico, yards.....	Domestic, yards	Number of Barrels of Apples required to pay for a Self-binder Harvesting Machine
1870	39	7⅛	114	14¼	7⅘	5¾	.....
1875	54	7½	155	18	11⅓	9½	319
1880	72	6⅓	154	16	12½	9⅛	284
1885	65	7⅛	172	18	13	10	264
1890	84	12¾	250	28	23	15⅛	122
1895	67	12	120	24	15	8½	208
1900	73	15	168	19	17	11	164
1903	120	22	286	40	23	16	90

I am also informed by merchants, that the quality of goods, especially farm machinery, has been greatly improved; for example, the harvester of twenty-five years ago cannot be compared with the self-binder of to-day, and yet in 1880 it took 284 barrels of apples to pay for a harvester, while in 1903, ninety barrels bought a much better machine.

THE VINEYARD.

An Important Meeting of Vine Growers.

Mr. Frank T. Swett of Martinez, one of the brightest of our younger race of vine growers, and active in all lines of promoting the interests of the industry, writes for the Lodi Herald an appeal for attention to the coming convention of vine growers in this city, which we are pleased to extend to our wider constituency:

The first annual meeting of the State Viticultural Club will be held in San Francisco, at the rooms of Mechanics' Library, on Post street, below Kearny, on August 1 and 2. A large attendance from all parts of the State is expected. A feature of the meeting will be the discussion of problems of planting and caring for resistant vineyards; vine diseases of different kinds will be discussed by growers and by experts; matters of legislation affecting the grape interests will be talked over; addresses will be made by a number of prominent citizens and by viticultural experts. Professors George C. Husmann, E. W. Hilgard, E. H. Twight and Newton B. Pierce have been asked to talk on their various specialties.

Considerable has been done during the past year in the study of vine diseases, and this important matter will receive much attention. Governor George C. Pardee, President Benjamin Ide Wheeler and Regent R. T. Taussig, who is chairman of the viticultural committee of the board of regents of the State University, have been asked to address the convention. A number of growers will talk of their actual experiences in vineyard planting. The annual meeting of the club is practically a State convention of grape growers, and every vineyardist in the State convention of grape growers and every person interested in viticulture is invited to attend. This viticultural club does not seek to take the place of local organizations; in fact, at the last meeting local committees in different parts of the State were appointed to perfect local organizations. The grape industry is certainly large enough to warrant an annual meeting of the most progressive people engaged in the industry.

During the last few years there has been widespread destruction of vineyards in different parts of the State by phylloxera and Anaheim disease. Few people realize the tremendous losses caused by these troubles. Professor Pierce estimates that over $10,000,000 damage has been caused by Anaheim disease alone in the last ten years. Phylloxera is at work in almost every county north of the Tehachapi. To check the spread of these troubles, and to induce both Government and State to take measures for the investigation of these diseases by competent experts, should be the aim of every wide-awake vineyardist. They are problems that the individual grower cannot decide for himself. At the last meeting of the Viticultural Club a committee of which I was chairman was appointed to confer with the regents of the University. A conference was held, which resulted in the University immediately increasing the appropriation for viticultural investigation $1800 a year. President Wheeler showed himself deeply interested in the matter. I have seen the comment made in certain agricultural journals that the University was an institution where much attention was paid to Latin and Greek, but where no one had any use for agriculture; that it was a place where the agricultural department was referred to in derision as the "Cow College." All of this was doubtless true enough ten years ago, but any writer who foolishly puts such misinformation on paper is wonderfully behind the times. There are now over 300 students who attend lectures in the agricultural building, and the number is increasing each year. President Wheeler has done more for the agricultural department of the University than all the preceding presidents of the University combined. The quick perception and broad-mindedness of the man impressed me forcibly.

Should the bill introduced by the breeders' organization, providing for the purchase of a University farm, where practical farm operations can be carried on, become a law, the viticultural interests should see to it that viticultural instruction and practice be made a part of the plan. Of course, the University has experimental plots in different parts of the State, but these are hardly available for instruction in actual vineyard practice. And the State needs trained men who can go out and properly manage vineyards and care for wineries. Such men should be graduated who would combine the scientific foundation received at the University with the practical knowledge gained at the University farm.

It is proposed to ask the coming Legislature for the sum of $15,000 a year for two years, to be devoted to the investigation of vine diseases—to protect the vineyards of the State from destruction.

When it is known that Germany spends over $500,000 a year for exterminating vine diseases, it seems ridiculous that no organized effort has been made in the past by the growers of our State to secure the services of trained men to combat phylloxera and the disease that is deadlier and more baffling, the Anaheim disease. The overworked staff of the University viticultural department until recently consisted of one man, Professor Twight, an able and conscientious worker. But with classes to instruct, with correspondents to answer, with farmers' institutes to lecture to, with experimental plots to look after, it has been impossible to give much time to any one thing. I am hoping to see the department built up with men enough to make rapid headway in solving the difficulties that are worrying vineyardists in almost all parts of the State.

THE FIELD.

That New White Potato From Uruguay.

From United States Consul Thornwell Haynes, Rouen, France.

The wild aquatic vegetable Solanum commersonii, was introduced from the banks of the river Mercedes, Uruguay, and distributed in France by Professor Heckel, director of the Colonial Institute of Marseilles. In its original state the tubercle is very bitter, but Dr. Heckel pronounces the results of four years of experiments with it marvelous.

The leaves are small and slender, somewhat like those of the Irish potato, and the flowers are abundant, of a pale violet color, and very odorous, the perfume resembling that of jasmine. New stems and tubercles branch off in every direction all the year, and after one planting the plant perpetuates itself from the broken roots left in the soil.

The vegetable proper (that is, the tubercle) weighs from one to two and one-half pounds, and has a yellowish, wrinkled skin, covered with lenticels, which disappear after culture. The pulp, when cooked, has a slight greenish color. Of twenty-five taken by hazard and cooked with their skins on in 1901, all were very bitter; but of twenty-five thus taken in 1903, only eight were very bitter, seven bitter, five eatable, three good and two farinaceous. By peeling, the number of bitter and very bitter ones were diminished by 10% to 20%, while the number of good and eatable ones were increased accordingly. The roughness of the skin and the number and size of the lenticels are usually in proportion to the acridness of the tubercles. In spite of their bitter taste, animals are fond of them, especially when cooked.

In 1903, upon a farm that cultivated the Solanum commersonii, the severest cryptogamic maladies known made their appearance, yet 98% of the tubercles of this new potato were found intact, while of the Early Rose potato only 15% were found good.

Planting is done toward the end of March, preferably in level ground, so as to diminish drainage. The best depth seems to be about 3 inches. The digging, which is a little more difficult than that of the Irish potato, because the numerous tubercles extend in every direction, begins when cold weather has arrested the growth of the plant. In the same soil the yield is greatly superior to that of the ordinary potato. The Early Rose in one instance gave 3000 pounds to the acre, the American Marvel 3000 pounds, and the Solanum commersonii 8500 pounds.

This new vegetable does not seem to become acclimated until the second year. The size, appearance and taste are modified more rapidly after one year.

The new potato requires humid, fresh, even marshy, soil. In dry, sandy, clayey soil the yield has been 25% less than in moist soil. The absence of sunlight causes a smaller yield, with smaller and inferior tubercles and ten to fifteen days later ripening.

The foliage, refused by rabbits, is eaten by horses, cattle and sheep. The flowers, which make their appearance about a month after the plant shows above the soil, continue to be very abundant until the harvest. A rude attempt to extract the perfume has furnished an exquisite, aromatic, very persistent, but faint jasmine odor. In the fruit this perfume is so strong that when specimens were placed in an artificially heated room to dry, the room was uninhabitable for the fifteen days they were there.

There are three varieties of Solanum commersonii, characterized by the color of the skin—the yellow, the rose and the violet. The last, which is the best for human consumption, presents the following characteristics: Enormous and uninterrupted production, absolute immunity from cryptogamic maladies, delicious flavor (much appreciated by animals), adaptability to moist soill and easy culture.

California Meadow Sweet.

To the Editor:—Please name the enclosed shrub through the Pacific Rural Press?—Old Subscriber, Eureka.

The plant is California Meadow Sweet (Holodiscus discolor var. ariæfolius). It is common in wooded canyons of the Coast Range.

Treatment for Asparagus Rust.

Prof. R. E. Smith of the Agricultural Department of the University issues the following suggestions:

Keep down all asparagus growing wild near the beds.

Three weeks after the cutting season ends (or when the plants begin to get bushy and blossom) apply sulphur to the tops at the rate of 75 to 100 pounds per acre.

Repeat this every two or three weeks, making at least three applications in all.

Put on the sulphur early in the day, when there is no wind and as much dew as possible.

Where the acreage is not large and rust is abundant in the neighborhood it will pay to spray with Bordeaux mixture the first and second times, following immediately with the sulphur while the tops are wet. The liquid will make the sulphur stick better and prevent the rust itself to some extent.

The number and frequency of sulphur treatments must be governed largely by the amount of rust developing. Watch closely for its appearance and work accordingly. In such districts as Vorden, Grand Island, Andrus Island and Twitchell Island no treatment may be necessary until August, or even later. At Sacramento, Milpitas, and wherever there is much rust, begin as described above.

Use the best sublimed sulphur, which may be obtained at a low rate by combining orders with large growers.

Sulphur may be applied with any dusting arrangement or sprinkled on by hand. Some growers will adopt a Gem seed sower for the purpose in large fields. The bed, pole, etc., must clear the tops and the sower be tipped somewhat to throw downward

Get on enough sulphur to show plainly all over the tops and on the ground.

The Bordeaux mixture is best put on with a hand pump and two short lines of light hose, running on a sled, with one horse between the rows.

Thorough cultivation during the summer is most important and will do more than almost anything else to keep up size and quantity of asparagus. In the Milpitas section irrigation in the summer is also very beneficial in keeping off the rust, but on the islands this is not the case.

Calf Feeding Experiments.

A valuable calf-feeding experiment was conducted at the Fort Hays branch of the Kansas Experiment Station. This is what a farmer would call practical experience. They turned J. G. Harvey, the superintendent, out in a pasture of buffalo grass without buildings or crops and told him to produce something.

In the second year, among many other things done, the superintendent fed these calves.

The calves numbered fifty-six head, and were fed in seven lots of eight each.

The experiment consisted of a trial of native feeds and a trial of calf feeding.

The calves were bought in market and cost $13.50 per head delivered at the farm.

The calves weighed an average of 402 pounds at first, gained an average of 282 pounds in 182 days and sold in market weighing 694 pounds each.

They sold in market netting $30 per head after paying cost of marketing.

Owing to delays in completing sheds and yards, the feeding was not begun until December 21.

The calves were of good quality, being mostly grade Hereford and Shorthorn, and were cut out into lots of as nearly even weight and quality as possible.

They were fed very little grain at first, the amount being increased gradually for nearly two months until they were on full feed; but they were given all the roughness they would readily clean up.

After they were on full feed they were fed twice a day what grain and hay they would eat up clean.

The seven lots were fed as follows:

First—Corn and alfalfa hay, which required 545 pounds of grain and 388 pounds of hay to 100 pounds of gain.

Second—Barley and alfalfa, which required 519 pounds of grain and 421 pounds of hay to each 100 pounds of gain.

Third—Wheat and alfalfa, and required 404 pounds of grain and 432 pounds of hay to each 100 pounds of gain.

Fourth—Corn and sorghum, and required 715 pounds of grain and 592 pounds of hay to each 100 pounds of gain.

Fifth—Corn and prairie hay, and required 641 pounds of grain and 381 pounds of prairie hay for each 100 pounds of gain.

Sixth—Corn and oat straw, and required 717 pounds of grain and 354 pounds of hay to each 100 pounds of gain.

Seventh—Mixture of all feeds fed others, and required 473 pounds of grain and 414 pounds of hay to each 100 pounds of gain.

The grain was all ground medium fine, and the lots getting corn were fed corn and cob meal, except for the last three weeks, when straight cornmeal was fed.

The hay and grain were of good ordinary quality, all being grown on the station farm.

It will be readily seen that the alfalfa hay makes a great difference in the amount of grain required. The experiment shows a gain for alfalfa of from $2.50 to $4 per head over sorghum, prairie hay or straw.

The barley and wheat also make very good showings.

The lot of calves receiving the mixture fed the best and made a very cheap gain.

There was a more marked difference in the appearance of the lot than is shown by the results, though the rank would be in the same order as the daily gains show.

The alfalfa lots fed much more evenly than the sorghum, prairie hay or straw fed lots, and hence would have brought a better price on the market.

It was expected that all of the lots would be sold on their merits, but a few in several of the lots were not in first-class condition, only a part of these being marketed.

The corn and alfalfa lot weighed 399 pounds per head at the beginning, and gained 388 pounds per head, or 1.85 pounds per head per day, and eight animals were in good condition for market.

The barley and alfalfa lot weighed 401 pounds per head at the beginning, and gained 297 pounds per head, or 1.62 pounds per head per day, and six animals were in market condition.

The wheat and alfalfa lot weighed 413 pounds per head at the beginning, and gained 284 pounds per head, or 1.56 pounds per head per day, and six animals were in condition for market.

The corn and sorghum lot weighed 397 pounds per head at the beginning, and gained 224 pounds per head, or 1.23 pounds per head per day, and only four animals were fit for market.

The corn and prairie hay lot weighed 406 pounds per head at the beginning, and gained 262 pounds per head, or 1.43 pounds per head per day, and five animals were fit for market.

The corn and oat straw lot weighed 405 pounds per head in the beginning, and gained 251 pounds per head, or 1.37 pounds per head per day, and four animals were ready for market.

The mixed-feed lot weighed 403 pounds per head at the beginning, and gained 328 pounds per head, or 1.80 pounds per head per day, and seven animals were in condition for market.

Any farmer can tell what the calves cost to feed by figuring the cost of the grain and hay on his own farm or ranch.

Believes in Bermuda Grass.

We have frequently described the liking of some farmers on the alkali lands of the San Joaquin valley for Bermuda grass, because of its hardiness against local evils of alkali and drouth. A Yolo county farmer writes of Bermuda grass to the Breeders' Gazette from other points of view:

On the Sacramento river, where we have large bodies of overflowed lands, much of which is under water for from three to six months, we have found Bermuda grass to be an excellent pasture grass for these lands. It grows under water and cannot be killed by overflow. It makes an excellent sod; produces in this climate—where we have no severe cold weather—an enormous amount of excellent feed. In fact, I have found it to produce more feed as pasture for cattle and all kinds of live stock than any forage that grows in this section, and every species of animal appears to be very fond of it, especially cattle, horses and sheep. I have a patch of it in my yard of less than half an acre that all stock, even the chickens, will eat ravenously.

Bermuda grass will stand both drouth and overflow and for pasture nothing, not even alfalfa, equals it in this climate as a pasture grass. For hay I cannot speak from experience, never having cut any for hay. It grows very thick on the ground, a perfect mat, but does not grow tall, and I think probably would be difficult to make into hay. It does not grow readily from the seed, which are very small and insignificant and hard to obtain, yet the seed stores of California carry it, but it costs $1 a pound generally. The easiest way to get a stand of it is to cut the sod in the spring, chop it up as fine as you can (every 1-inch piece will grow), and cover it well on the plowed ground; it will grow. But the best stand I ever saw was where the sod was cut fine, put into a flat-bottomed boat and sown in the water; it sinks to the bottom of 4 feet of water, takes root and grows right along.

Bermuda grass does best on wet land in a warm climate, spreads rapidly, makes heavy sod and is somewhat difficult to get rid of when once well established, but my experience is that anyone having wet land once in Bermuda grass will never want to get rid of it, as it is too valuable a forage grass to replace with anything for feed for stock. It produces more and better feed for dairy cows than any grass grown in this climate, and milk produced from it tests higher than that made on any other grass, but it loves hot weather and plenty of water.

Agricultural Review.

Butte.

APRICOTS VERY SCARCE.—Chico Record: E. A. Warren, after scouring the country north of Chico to the limit of the fruit belt in quest of fifty carloads of dried apricots, was last week able to assemble a single carload at Tehama, which was dispatched to the Chicago market. This comprised all the available stock in that section.

SOLD FIG CROP.—Oroville Register: We are told that William McNamee of Thermalito, who for some years past has been very successful in growing figs, has sold his crop this year fresh. Delivered on board the cars he will receive $83 a ton. While it is considerable work to pick the ripe figs, yet there is money in the fruit at the price named.

Contra Costa.

FIRST FRUIT SHIPMENT UNDER NEW ARRANGEMENT.—Benicia special to Sacramento Bee, July 16: The Stewart Fruit Co. shipped the first carload of ripe fruit from Antioch east over the Santa Fe, under the new order of things, this week. The fruit was brought to the Antioch warehouses from points on the Sacramento river by the steamer Leader, which has been chartered for that purpose by the Santa Fe Co. The consignment consisted chiefly of plums of fine quality and variety. They came from orchards at Courtland, Walnut Grove and the Runyon orchard. It is estimated that 5000 cars of fruit will be shipped east through Antioch from the Sacramento valley.

Fresno.

DAMAGED RAISINS BRING GOOD PRICE FOR HOG FEED. — Republican: The raisins damaged in the fire of the Eagle Packing and Storage Company packing house were sold by auction yesterday at the site of the fire, and brought prices that astonished every one present. The raisins were sold in two blocks, the charred heap and those in boxes. The bidding was quite lively and before any one could realize it the price had been run up to a figure greater than had been looked for. J. W. Schmitz, representing Miller & Lux, got the raisins for hog feed, but O. J. Woodward and E. E. Manheim were on hand and forced the bidding up. The dump was sold to Mr. Schmitz for $535, and the raisins in boxes brought $11.25 a ton, being bid up from $5. It is estimated that there are 338 tons, and at that estimate the entire raisin sale netted $4307. It was reported last night that a deal was made between Schmitz and certain of the packers whereby the latter could have such of the raisins as they wanted for $20 a ton for seeding.

APRICOTS AND PEACHES.—Enterprise: J. W. Brown, living one mile north of Selma, has 500 trees of apricots that produced eleven tons of fruit this season. The fruit has been dried, cured and delivered to the packing house where he received a check of $1600 for the same. Mr. Brown had contracted the fruit to the buyer early in the season for 7½c. a pound, and as a result secured $200 less than the market price later. However, he is well pleased with the income that the trees are bringing him. GeorgeDrew has but three acres of bearing apricots this season, but from this small tract 12,342 pounds of dried fruit was taken. The crop sold for 7½c., bringing the neat sum of $956.50. C. A. E. Young has six acres of bearing trees which produced over a ton of apricots to the acre. He received over $1000 from his crop, which was light. Tom Newell has two and a half acres of apricots which he figures will yield him seven tons of dried fruit. At 7½c. a pound he will receive over $400 an acre from the crop. The peach crop in the vicinity of Selma is good and will average about the same as last season. It is estimated that about 15,000 tons of dried peaches will be handled in the local packing houses the present season. The packers have already contracted for most of the crop at prices ranging from 5c. to 6c. a pound, and the prospects are good for higher prices before the season is over.

Glenn.

FIRE SWEEPS 10,000 ACRES.—Willows special to Sacramento Bee, July 15: Fire started in the foothills, 12 miles west of Willows, Wednesday morning and is still burning, though now under control. As it was a quiet day little heed was given to the conflagration, everyone thinking that it would burn itself out in the immediate neighborhood in which it began, which was a grazing section. But the wind arose in the afternoon and it was then realized that the fire was a serious matter. The ranchers turned out in force, but, though they worked all night, the fire gained ground. A strong south wind blew all day and the zone of the fire widened until it was about 12 miles long, covering 10,000 acres. The growing grain on the Johansen and Glusing ranches has been destroyed. Clark's valley has been entirely swept by the flames. The mountain ranges are now heavily stocked with cattle, and the loss will be great to all those running their stock in that section.

Kings.

FINE CROP OF WHEAT.—Hanford Sentinel: In speaking of their wheat on the lake, E. H. Howe states that from one quarter section he and his father have harvested 4000 sacks of grain, an average of twenty-five sacks per acre.

Los Angeles.

A $60,000 PURCHASE. — A San Dimas dispatch states that a Los Angeles real estate broker has purchased the George E. Coleman property, consisting of 103 acres in oranges and lemons, with a magnificent residence and other buildings; consideration $60,000.

PROTECTING DOVES.—Pasadena Star: The efforts of the California Audubon Society to protect the nesting doves from the pot hunters in this county are meeting with very great success. The owners of several large ranches, including the Chapman ranch, the Sunny Slope ranch and the Mesa Alta or Hastings ranch, lying between Pasadena and Monrovia, have posted their lands and are co-operating with the society in every way to "Shield the Nesting Doves," which for the time being has become the watchwords of the California Aubudonites. Other large and many smaller ranches throughout the county will be posted before the shooting season opens.

Mendocino.

THOROUGHBRED BUCKS.—Ukiah Republican Press: August Linser, a prominent sheep raiser from Bell Springs, has returned from Sacramento, where he purchased sixteen thoroughbred bucks. They are of the famous Rambouillet stock and were raised on the Glyde ranch. They are great wool producers and larger than the ordinary sheep, and as he always keeps them bred to a high standard his wool commands from 1 or 2 cents a pound more than is paid in the city.

Orange.

APRICOTS.—Santa Ana Blade, July 15: The apricot crop is a record breaker and difficulty is being experienced in getting sufficient help to handle it. The fact that the apricots have ripened slowly up to this time has relieved the situation some. The fruit is usually small and for this reason the price paid pitters has in many instances been increased from 20 cents per hundred to 25 cents. Parties who are purchasing green fruit for drying purposes are paying about $17 per ton.

DESTRUCTIVE GRAIN FIRE.—Anaheim Gazette: The third destructive fire in the El Toro grain fields within a few weeks occurred Thursday, when 600 sacks of grain belonging to William Yost were burned. The fact that there have been so many fires in succession leads to the belief that they are started by an incendiary.

FROM APRICOTS TO WALNUTS.—J. B. Neff is busily engaged in gathering his apricot crop, which is turning out well. Mr. Neff states he will this year replace a portion of these trees with grafted walnuts, the remainder of them going next year. He will devote his attention exclusively to walnuts in the future. His orchard of these trees is laden with the heaviest crop of nuts to be found in the county.

San Bernardino.

SMALL APRICOTS.—Highland Messenger: Contrary to statements made early in the season, that apricots this year would be much larger than last, the fruit has turned out to be on a par with the preceding season, and so small was some that the Gregory people dried three tons this week without cutting it. The crop is on an average with former crops, though somewhat late. The prevailing price for dried apricots is now about 5 cents per pound, but better figures are expected later on.

APRICOTS TO GERMANY.—Sun: Manager Thompson, of the North Ontario packing house, shipped a carload of 27,500 pounds of apricots from that house last week, and the fruit is now en route to Germany. The destination of a part of it is Hamburg and the remainder will go to Rotterdam.

San Diego.

CROPS ARE SATISFACTORY.— Imperial Herald: R. E. Toomey of the McNear warehouse says that the total yield of Imperial valley for the season of 1904 will be about 15,000 sacks of wheat, 50,000 sacks of barley and 20,000 tons of grain hay. This he claims is only one-third of what it should have been with plenty of water. As to the quality of the grain, Mr. Toomey said there was considerable smut in it, and that the berry is not always up to the full size. Taking Mr. Toomey's figures on the production of hay and grain, and the prices of wheat at $1.20, barley at 62c and hay at $7.50, the total cash value of the farming produce of Imperial valley this season is, wheat, $19,800; barley, $55,200; hay, $150,000. To this must be added the products of Kaffir, Egyptian and Indian corns, melons and vegetables, also hogs and fattened cattle. It is impossible to get the exact figures, but they will certainly run over $500,000.

San Joaquin.

HEAVY BARLEY YIELD.—John Mohr of Bethany is exhibiting a sample of barley from a field of forty-five acres which he rolled when the barley was in the milk. From the forty-five acres he harvested 1000 sacks. The grain is plump and sound and will go from 107 to 109 pounds per sack, where barley ordinarily runs under 100 pounds to the sack. Many of Mohr's neighbors shook their heads when they observed him mashing down his field of barley, standing 4 feet high, with a big wooden roller 4 feet in diameter. In the corners of the field that he could not reach with the roller the barley was nearly all shelled out, whereas of the rolled grain he saved it all.

Santa Clara

APRICOTS AND PEACHES. — San Jose Mercury: All of the local canneries are now running on apricots and large shipments have been received both by rail and wagon. The price of apricots remains steady at from $30 to $35 per ton delivered on board cars or at the cannery platform, according to size and quality of the fruit. Westside growers and those from the southern end of the valley have a better crop than usual this year, both as to size of fruit and quantity, but in a great many sections the fruit is smaller than last year. The peach crop is ripening fast and will soon be coming into the canneries. The price for clings ranges up to $50, though as low as $34 has been paid. Freestones are offered at $25, with large amounts being taken at that figure. The crop this year promises to be large, and it will not be long before steady shipments are being made to the Eastern market of fancy fruit where more remunerative prices are to be had than are obtained here.

Santa Cruz.

FRUIT NOTES.—Watsonville Pajaronian: The apples in a great many orchards in Pajaro valley are being sold on the trees under sealed bids this season. ——Bellefleur apples in this vicinity look healthy and promise good size and quality, but the aggregate yield will be far short of last season.——The colonies of ladyhirds imported from southern Monterey county and turned loose in Pajaro valley to prey upon the woolly aphis are doing good work.——Mr. and Mrs. J. R. Casaday have about one and a half acres of their Vega ranch planted to mammoth blackherries, and the yield from the same this season has been large. During the past week over fifty chests were picked from the patch, and the price received for the same averaged over $6 per chest. For size and quality they cannot be excelled.

Shasta.

BUYS HISTORIC LAND.—A Redding dispatch says: One of the biggest land deals ever consummated in Shasta county has been closed whereby George L. Hoxie of the Hoxie Lumber Company comes into possession of the major part of a historical tract of land known as the Reading grant, upon which Fort Reading once stood and where Major Reading, the earliest settler of the upper Sacramento, made his home. The tract of 2500 acres sold for $40,000. Five hundred acres will be sown to alfalfa, and the whole made into a fine stock ranch.

Solano.

TOMATOES BRING GOOD FIGURES.—Dixon Tribune: R. L. Cooper, who owns one of the Currey subdivisions on the creek, is demonstrating that tomatoes can be grown at a profit. For several days past he has been shipping to the Oakland market some fine tomatoes, for which he is receiving $1.75 per box of twenty-seven pounds. Of course the tomatoes are of good size and quality.

Sonoma.

A MONTH'S EGG BUSINESS.—Santa Rosa Press-Democrat: The Co-operative Poultry Association of Sonoma County some five months ago made an arrangement with Scott & Hart, of Santa Rosa, to sell their eggs, and they estimate that an average saving of $440 a month has been made during that time by this plan. The shipments of the Association for the month ending July 15 came to 598 cases, or 21,114 dozen eggs. These have averaged 23⅓ cents per dozen, or gross $5013.64 to the producer.

LARGE BERRY PURCHASES.— Santa Rosa Republican: Local Manager J. B. Moran, of the California Fruit Canners' Association, has within the past two days purchased 400 tons of blackberries. The ruling price paid for them has been $30 per ton. Though this has been much less than the price paid last season for berries, the price paid for peaches this year is considerably in advance of that paid last year, and with the crop of peaches in this section, will do much toward bringing the cash receipts for the fruit production up to the average.

BIG HAY STACKER.—Sebastopol Times: Frank Roberts passed through town Thursday on his way to his big ranch on the Freestone road, with a large hay stacker. The machine is said to have a stacking capacity of 100 tons of hay per day. It is the largest contrivance of the kind ever seen here.

THOUSANDS OF TONS OF HAY.—John U. Graeff reports there are at least 5000 tons of hay on the adobe flats between Petaluma and Lakeville. There will be practically no grain in that section, as everything has been cut for hay. Scores of presses are now at work on the flats.

Stanislaus.

PRICES FOR APRICOTS.—The apricot crop on the Bald Eagle ranch has been harvested and dried for the market. The yield is light—about 65% of a full crop—but the price is correspondingly high, or higher—$160 a ton.

GOOD YIELD OF FIGS AND GRAPES.—The fig crop—White Adriatics—is large. Bidders for it have not yet reached last year's figures. Some of the trees, grafted to Smyrna figs, are bearing nicely, but the fertilizing insect, the blastophaga, without which the true Smyrna fig cannot be produced, has not yet been introduced. They will be in another year, when the Capri figs that have been set and which are necessary for their successful introduction, will be far enough advanced to harbor them. The grape crop promises to be heavy.

TWO HUNDRED DOLLARS AN ACRE FOR ALFALFA LAND.—S. J. Dodd of Crow's Landing reports that the George H. Crow alfalfa ranch of 130 acres, near Newman, has been sold to an Oakland man for $28,000, the stock and equipments included. It is figured that the land and improvements brought $200 per acre.

Sutter.

ALMOND GROWERS MEET.—Yuba City Farmer, July 15: The special meeting of the Sutter Almond Growers' Association held at the court house last Saturday was attended by almost all the members. The estimate of the crops of the members in this locality was placed at 75 tons. Last season the Association delivered about 150 tons. Representatives from various firms were in attendance and presented propositions to the Association. After hearing the same, the growers decided that they would not take up the plan of appointing a selling agent, as the Davisville Association has done, but would follow the same plan as last year—of receiving bids. The representatives of the firms present put in bids for the crop, but the same were rejected, and the Association will meet again next Monday to consider matters. The following were the bids as offered last Saturday, the same being about 1c. per pound higher than last year: J. B. Inderrieden Co.—I X L, 11c; Nonpareil, 12½c; Ne Plus Ultra, 10½c; Drakes, 9½c; Lanquedoc, 8½c; Golden State, 8¾c; Routier, 9c; La Prima, 10½c; Llewellyn, 9¼c. Rosenberg Bros. & Co.—I X L, 11c; Nonpariel, 11½c: Ne Plus Ultra, 10¾c: Drakes, 9¼c Lanquedoc, 8¾c; Golden State, 8½c; Routier, 8½c; La Prima, 10c; Llewellyn, 8½c. J. K. Armsby Co.—I X L, 11c; Nonpareil, 11¾c; Ne Plus Ultra, 10½c; Lanquedoc, 8.80c; Drakes, 9½c; Golden State, 8.55c; Routier, 8.55c; La Prima, 10c; Llewellyn, 9c.

Yuba.

ELECT SHEEP INSPECTOR.—Yuba City special to Sacramento Bee: The board of supervisors of Sutter county this week, in accordance with a petition presented them, created the office of sheep inspector and elected Joseph Haugh to the position.

Horse Owners! Use GOMBAULT'S Caustic Balsam



A Safe, Speedy, and Positive Cure

The safest, Best BLISTER ever used. Takes the place of all liniaments for mild or severe action. Removes all Bunches or Blemishes from Horses and Cattle, SUPERSEDES ALL CAUTERY OR FIRING. *Impossible to produce scar or blemish.*

Every bottle sold is warranted to give satisfaction Price **$1.50** per bottle. Sold by druggists, or sent by express, **charges paid**, with full directions for its use. Send for descriptive circulars.

THE LAWRENCE-WILLIAMS CO., Cleveland, O.

The Home Circle.

Mabel's Outfit.

Now Mabel's packed her trunks and gone
to dwell by the sea;
She took more things than she will need
to wear, it seems to me.
She took her dark blue etamine, her pon-
gee and her voile,
Twelve nainsooks, twenty organdies that
cost me lots of toil;
Foulards galore, two crepe de chines, a
mousseline de soie,
Two taffetas embroidered mull—Lord,
help poor old pa—
Some dotted swiss as fine as mist, ball
dresses by the bunch,
With gowns for breakfast, dinner, tea,
and other gowns for lunch.

Of snowy muslins she took ten, of shirt
waists ninety-two;
Of yachting suits and white duck skirts
enough to please a shrew.
She's also got her bathing suit—it surely
is a dream,
Made out of hardly anything worth men-
tioning, 'twould seem.
She's got a gross of petticoats, eight hun-
dred pairs of hose,
And handkerchiefs enough to blow each
blessed human nose;
She's forty-two kimonas and a hundred-
weight of gloves,
And dressing gowns and picture hats and
other things in droves.

She took a dozen mirrors and a peck of
powder puffs,
With bottle after bottle of the best com-
plexion stuffs;
With thirty-seven parasols and things I
s'pose her ma
Knows quite a little more about than me,
for I'm her pa.
We stood around to see her off and shed
some tears of fear
She'd miss her catch and make us buy
her summer duds next year.
Her ma's last words were "Mabel, dear,
be sure and don't forget
To wear your bathing suit each day—but
don't you get it wet!"

—Baltimore American.

The End of a Rainbow.

The sudden summer shower was over and two children stood on the hotel veranda gazing wistfully at the glorious bow that spanned the sky.

"I wish we could touch it," the girl said longingly; "it is the most beautiful thing in all the world."

"Well," the boy returned practically, "I don't care much about touching it, but I'd be mighty glad to find the end of that rainbow."

"Why?"

"Don't you know, goosie? There's a great pot of gold at the end, and it will belong to the person who can find it. Jiminey, but I wish I had it here this very minute."

"Let's go and get it."

The boy stared at his tiny companion in surprise. The feminine mind was much more daring than his own, it appeared. Did the girl really mean that they should go off alone into that limitless forest when they were never even trusted near it unless accompanied by some older person? Still he took another look at the brilliant bow. This was certainly the chance of a lifetime, and, of course, he would not refuse to go any place that a girl was willing to go.

"Besides, it was her suggestion, any way, not his, and if there were future reprimands and scoldings in store he could just say that it was she who proposed going.

"Come on," he said, briefly, holding out his hand, and off the two trudged toward the alluring, treacherous bow, giving no heed to the awful terror which their absence would surely inspire.

It was nearly twenty-four hours later that they were found. The boy's father, heading one of the many searching parties that were scouring the woods, stumbled over them, and his pale lips sent forth a triumphant shout—for the children were safe, and, in view of that fact, all minor matters sank into insignificance.

Death had hovered too near to leave room for any feeling save that of deepest thankfulness. There were no scoldings in store for the culprits, though both were questioned closely regarding the escapade.

The girl always remembered with fervent gratitude that the boy never told any one that it was she who proposed seeking the pot of gold.

The boy rather wondered at his own reticence, but after all it seemed rather a mean sort of trick to palm the responsibilities of his misdeeds on a girl! He kept a discreet silence on that point, and by doing so exhibited considerably more manliness than a certain ancestor of us all once displayed.

Two weeks later the hotel closed for the season, and the girl and the boy went their several ways. Off in her Eastern home the girl did not quite forget the boy who had done his best to comfort her in the terrible forest, and who had protected her by his silence when they were found.

Off in the West the boy remembered with a feeling of pride that the girl had never cried during that awful experience, and that she had never reproached him for allowing her to go into such peril. Of course, he should have known better, for was not he a boy, and the elder, too?

The girl had been a casual summer acquaintance and the two were effectually separated when the brief summer season ended. For several years the boy begged his mother each June to go back to that place, but she had a shuddering horror of the valley and the mountains, and nothing would induce her to return.

So at last the boy gave up asking, and the experience was crowded into the background by a hundred new interests and aims.

Long years after, when he was a man, playing a man's part in the world, the old desire suddenly seized him to return to that place. The hotel was still there, very modern in every way; but somehow he felt bored and missed an intangible something which he imagined he would find. He stood it for a week, then the quiet became intolerable. He resolved to leave the place. That day she came.

He knew it was fate from the very first. He was not ordinarily inclined to be shy, but he felt like a raw schoolboy in her presence.

She had many friends at the hotel, but he managed by sheer persistence to monopolize a good share of her time.

He could not tell whether he was making any headway or not. She was friendly but very elusive, and the time had come when he must go back to his work, for there were obligations which he could not ignore.

He lured her out that morning for a row, with the promise of a lovely spot which she had never seen. He was unusually silent and she leaned back in her corner of the boat watching him with speculative eyes. Apparently he was searching for some particular nook. At length his quest appeared ended, for he drew the boat carefully to the shore and held out his hand to her. Then they wandered over a wooded knoll nearby. "This is the place, I am sure," he said at last. "I have seen it often in my dreams, and here is just where the end rested."

She stared at him in mild wonder.

"No, I am not out of my mind," he assured her, "I wanted to tell you a story, and I had an unaccountable fancy for telling it to you in this spot. Will you hear it?"

"Is it interesting? Does it commence 'Once upon a time?'"

"Of course it does. It would be an exceedingly poor story if it didn't. I hope," and the man's face grew very earnest, "that you will be interested in the poor little story—but—I cannot be sure—

"'Once upon a time' when the world was nearly two decades younger than it is now, a boy and a girl started from the hotel down in that valley to find a pot of gold at the end of a rainbow—at least the boy, who must have been a very mercenary creature, was thinking only of the money, but the girl was more poetic, for she cared nothing at all for the gold. She only wished to see closely the wonder of mist and light which held and enthralled her fancy. They got lost, of course; that was a foregone conclusion, you know, and they were only discovered and saved by a kindly miracle of fate. The girl was a genuine brick, though, and never taunted the boy with his rashness and wickedness in leading her into such peril. The boy should have known better, you see, for he was considerably older, but he was always a good bit of a fool. He did not find the end of the rainbow, but for years he dreamed of it, and in some mysterious way he came to fancy that the treasure was not gold after all, as his nurse had told him, but that it was something infinitely more precious than gold. He was never quite sure what the mysterious treasure might be, but he knew that when he was a man he must seek it here—just on this very spot, for it was here that the rainbow seemed to end as the children looked up to it from the valley below—just here by this little hill."

There was a silence. Her face was turned quite away. The man looked at her keenly and then went on with his story in a low voice, which, perhaps, shook just a trifle.

"And so—and so—he came here today. He knows now what the treasure is at the end of the rainbow: a woman's heart and a woman's love. He does not know whether he dare claim it or not, but it is the gift which he most covets from life. And—can I have it, dear?"

Her face was still turned away. The man's heart had time to grow very heavy before she spoke.

"I was always wildly grateful to you for not telling that it was actually I who had proposed the expedition—"

"You don't mean—" he interrupted breathlessly, "that you were—"

"And—and—I did want to find the end of the rainbow, too, and if you think that we could, perhaps, find—it—together—why—"

He was holding her hand in a tight clasp, and was looking down at her eyes full of a reverent, incredulous joy.—Mabel C. Jones.

Summer Hygiene.

Our faces are again turned summerward. Among the many pleasant thoughts that the season brings is this one—that summer is, for all who will avail themselves of its opportunities, the season for physical regeneration.

Some may be inclined to exclaim, "Oh, yes, that is all very well for the rich, with their country places, their yachts, their sports and their leisure; but what about the rest of us, who can only snatch a week or two from the heat and turmoil of work in a great city?" It is to such, and not the idle rich, that these words are addressed.

A great many people who have to work in towns through the summer have made a sort of suicidal motto of the phrase, "toiling in a hot city;" and they persuade themselves that each day necessarily means physical loss of ground. They also draw the further deduction that those more fortunate people who fill the summer boarding-houses all over the land are thereby literally coining health.

Now this is an unfortunate state of mind—one which, in the first place, tends directly to induce ill health, and in the second place is due to misapprehension. Summer in the city has one great advantage in common with summer in the country—life, if one will, may be lived practically in the open air. All windows can be opened, and, except during driving thunderstorms, may be kept open the twenty-four hours round for months at a time. City fresh air, to be sure, is not so delicious as country or seaside fresh air, but it is infinitely better than anything that can be found in closed rooms.

At night, during the very hot spells, beds can be placed so near the windows that to all intents the occupant sleeps out of doors. Tables for the light, cool summer meals can also be placed in the open windows, and, in fact, with awnings to protect from the hottest glare of the sun, most of life can go on in the open air.

There is another great advantage for the city dweller that seldom receives fair mention. It is the great city markets, not the country and mountain resorts, that are supplied with the choicest of the summer products. Excepting at the more expensive hotels, it is certain that, while those who must spend the summer in town are enjoying cheaply the best of vegetables and the finest of fruit, many of their envied brothers in country boarding-houses are eating canned stuff and seeing no fresh fruit but berries. If you must stay in town, live on your roof or in your open windows, breathe deep, eat wisely, and waste no vigor in envy.—Youth's Companion.

Importance of Pure Air.

Just why people live is sometimes a question, when one stops to consider how they live, under what conditions, and with what carelessness along just the line of greatest importance. In these days when hygienic food has come to be considered of such paramount importance, and the matter of pure food and pure water is given much thought and consideration, even then, pure air which in reality is far above all else in importance, receives little or no attention.

One hesitates to take into his system food which bears the ban of unhygienic conditions or is poorly made, or impure in any way, but he gives no thought to the air which he is constantly taking into his lungs and which nature has provided for the rebuilding and renewal of the whole system. Indeed, nature has made provision whereby the air in the lung may be changed from sixteen to twenty thousand times a day, and if that air be pure, the result under nature's laws will be the best of health and spirits.

Every human being is much like a machine which must constantly be oiled to remain in good condition. The lubricant in this case is pure air, and it is that which keeps the entire machine running smoothly and doing its work. But just as grit clogs and blocks the mechanical apparatus, so foul, impure air slowly but as surely clogs the human mechanism and eventually breaks up the delicate machinery. The busy man or woman may forget all about the air of a room, but the results are, nevertheless, just as certain.

It is said that three-fourths of all sickness can be traced to foul air, because that amount of time is spent indoors, in sleeping-rooms, offices, restaurants, cars, schoolrooms, churches, halls, etc. From thirty to fifty cubic feet of pure air are necessary and should be available for every person confined in a room, office, schoolroom, workshop or wherever one may be, in order to maintain the requisite amount of pure air for lungs. A room ten feet high, fifteen feet wide and twenty feet long, contains three thousand cubic feet of air; one person will vitiate it in about one hour and two or more persons in a correspondingly shorter time.

Think what this means and consider what the conditions are in many offices, schoolrooms, churches, etc. Is it any wonder, then, that men come home after the day's work tired and worn out? Is it strange that children are ready to take every disease that offers? Do you wonder that women who are so much indoors lose energy and enthusiasm?

The late Prof. Willard Parker, in a lecture delivered before a class of medical students, made the following very forcible illustration of how the air of a room was constantly vitiated:

"If, gentlemen, instead of air, you suppose this room filled with pure, clear water, and that instead of air, you were exhaling, twenty times a minute, a pint of milk, you can see how soon the water, at first clear and sparkling, would become hazy and finally opaque; the milk diffusing itself rapidly through the water, you will thus be able to appreciate also, how, at each fresh inspiration, you would be taking in a fluid that grew momentarily more impure. Were we able to see the air as we see the water, we would at once appreciate how thoroughly we are contaminating it, and, that unless there be some vent for the air thus vitiated, and some opening large enough to admit a pure supply of this very valuable material, we will

be momentarily poisoning ourselves, as surely as if we were taking sewage matter into our stomachs."

Professor Parker's words are almost startling in the picture they present, not because they are new to us, but because in carelessness more than in ignorance, men and women will tolerate such conditions of impure air where they would shudder in horror were it possible to see the foulness with the eyes.

No one, in very truth, has a right to be careless, to forget and ignore those places which impose sweat shop conditions, whether in full measure or only in part. It is the part of those who know to insist—not merely for themselves, but for others—to insist upon purity, absolute purity in ventilation in homes, in living rooms and sleeping rooms as well, in schools, in offices, in public halls. Science has made it possible to secure purity of air and good ventilation, and it is surely worth while in the results accomplished if good conditions exist, and in the general improvement of health and spirits.—Manchester Union.

West Point's Architecture.

In developing the new character of West Point, it has been the aim of the designers, both of the fundamental plan and of the buildings, to preserve the natural features which give to the site an extreme distinction of landscape. To use their own language, they seek to make the architectural style "harmonize with the majority of the existing buildings, prolong rather than revolutionize the spirit of the place that has grown up through many generations, emphasize rather than antagonize the picturesque natural surroundings of rocks, cliffs, mountains and forests, and be capable of execution at the smallest cost consistent with the monumental importance of the work." As to the last consideration, the style chosen peculiarly meets the requirements of economy, for it adapts itself most flexibly to existing conditions of site, whereas, in a more formal style, the site has very largely to be adapted to be architecture.

The ground plan blends the picturesque irregularity called for by landscape conditions of exceptional wildness with the formality of design necessary to the establishment of logical relations among detached groups of buildings that monumentally make a complete ensemble. Hence there is a system of roads that follow the topographical contours in natural lines, taking the easiest grades and most convenient routes to the points sought. Again, among the individual buildings and separating the several structural groups, there are long, straight avenues, symmetrical plazas and formal open spaces. From these the visitor will enjoy a succession of splendid vistas and stately effects of monumental architecture, the sites so studied as to show each edifice at its best.—Sylvester Baxter in July Century.

The Average Standard of Health.

The healthy pulse of an adult male person should be firm, not compressible, but sensibly urged through the artery, notwithstanding pressure, yet neither hard, conveying a shock to the touch, sudden nor twitching, nor like a thread worming its way beneath the fingers; but moderately full, even, regular—from seventy to seventy-five beats in the minute.

If the pulse be habitually slower or quicker, we should assume this as an individual standard, because instances are upon record of the pulse of healthy adult males varying from thirty to fifty beats. Young infants are known to have a pulse numbering from 140 to 150 beats. If the skin be moist at a natural heat, and not flushed, this would be no sign of disease. The pulse also varies before and after meals.

The healthy pulse of an adult female should number from eighty to eighty-five beats in the minute; but we should not anticipate as strong or full a pulse in a woman as a man; nor, indeed, should we always attach much importance to the casual quickening of the pulse in highly nervous females.

The healthy pulse of a child from seven to fourteen years of age should number from eighty to eighty-six beats in a minute.

The healthy pulse of a child under seven years old, from the period of teething, may be stated at from eighty-six to ninety-six beats in the minute.

The healthy pulse of an infant before teething may be stated at from 100 to 120 beats in the minute, according as the child is robust or weakly; the robust infant generally exhibiting a less frequent but stronger pulsation. The healthy pulse of the first stage of declining life may be generally stated: For the male at seventy beats, and for the female at seventy-five beats in the minute.—Chronological Magazine.

Domestic Hints.

Apple Water Ice.—Pare and core some fine apples, cut in pieces into a preserving pan with sufficient water for them to float; boil until reduced to a marmalade and strain. To one pint of apple water add one-half pint of syrup, juice of a lemon and a little water; when cold, freeze.

Cocoanut Pie.—To one and a half cupfuls of grated cocoanut add a cupful of milk and boil slowly for about ten minutes. Beat the yolks of two eggs with a third of a cupful of sugar, add a level teaspoonful of flour, the cooked mixture slightly cooled, and flavor with vanilla, lemon or wine. Turn into a deep pie plate lined with pastry and bake in a moderate oven. Cover with meringue made of the whites of the egg.—What to Eat.

Mixed Pickle.—Two gallons chopped cabbage and green tomatoes; one pint of chopped onions, five tablespoonfuls of ground mustard, three gills of white mustard seed, two tablespoonfuls of ground pepper, two tablespoonfuls allspice, two teaspoonfuls of ground cloves, one pound brown sugar, one tablespoonful celery seed, two tablespoonfuls of turmeric, three quarts of the best cider vinegar. Put in a kettle and boil well.

Sweetbread and Celery Salad.—Sweetbread and celery salad is made exactly like chicken salad, substituting sweetbreads for chicken. The sweetbreads are prepared in the usual manner, shredding and parboiling them. Mix with mayonnaise, and serve on lettuce leaves. A nice garnish is a large green pepper cut in fine strips or circles. Red peppers are equally good as far as looks go, but the green pepper combination is better eating.

Strawberry Souffle.—Take equal portions of pulverized strawberries and bananas, and sugar to taste, erring on the side of oversweetening to make allowance for the juice of the one large orange that goes with each large quart of berries. Line the inside of a fruit dish with lady fingers moistened with Maraschino, and beat up the fruit with an egg whip until it foams. Then pour over the cake and set in the refrigerator to thoroughly cool.

Green Tomatoes.—Fried green tomatoes are a new accompaniment to steak, and are said by those who have tried them to form a particularly happy combination. They are cut in rather thick slices, salted and peppered and fried slowly in hot butter. They may be served on the platter with the steak, or as a side vegetable. Creamed green tomatoes are also commended. In this case they are cut in slices, boiled in salted water for about fifteen minutes, then served with a rich cream sauce.

Johnny Cakes.—One cup of Indian meal, a pinch of salt, butter the size of a walnut; pour over this enough boiling water to make a stiff batter, after being well stirred. Set for three or four minutes in a dish of boiling water; then thin with sweet milk until the batter drops easily from the spoon. Put on a hot, buttered griddle in spoonfuls, and when brown turn them over and brown the other side. This will make six good-sized cakes. Water may be used in place of the milk, but the cakes will not brown so nicely in that case.

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For further particulars and for maps, showing the subdivisions and prices per acre, address personally or by letter,

F. C. LUSK,
Agent of N. D. Rideout, Administrator of the Estate of H. J. Glenn, at Chico, Butte County, California

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JOHN F. BYXBEE, Palo Alto, Santa Clara Co., California.

Bright's Disease and Diabetes News.

1737 Broadway, San Francisco.
March 3, 1904.

To the church women of California:

It is so hard for people to believe that Bright's Disease and Diabetes are now curable that I am asked to permit reference to my own case. I shrink from it, but there are too many dying to remain silent. To be brief, I had both Bright's Disease and Diabetes for over five years. Usual Dropsy, nails came off, and the case was so hopeless that the physicians told us there was no need to diet and to give me anything I craved. I heard that people were being cured in this city and procured the treatment. In a few months the nails came back, dropsy disappeared and in a year I was well. To show how well, will say that several years after my recovery I stood a capital operation at the Waldeck Sanitarium in the presence of six physicians. Many friends, including Dr. Markell of Cloverdale and Judge E. B. Cutler of Pine street, are fully cognizant of my recovery from Bright's Disease and Diabetes. In fact, Judge Cutler is himself now recovering from Diabetes under the same treatment. Let the cure be proclaimed to the world. MRS. S. E. CLINE.

The above refers to the newly discovered Fulton Compounds, the first cures the world has ever seen for Bright's Disease and Diabetes. Send for pamphlet to Jno. J. Fulton Co., 407 Washington street, San Francisco.



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The Markets.

San Francisco Produce Report.

San Francisco, July 20, 1904.

CHICAGO WHEAT FUTURES.

Wheat futures in Chicago were as follows for the week named, price being for No. 2 Red per bushel:

	Sept.	Dec.
Wednesday	86 @ 87⅜	85⅛@86¼
Thursday	88¼@ 86⅝	87 @85⅜
Friday	87¼@ 86⅜	86⅛@85¼
Saturday	86½@ 87¾	85⅜@86¾
Monday	88⅛@ 89¼	87 @88⅛
Tuesday	88½@ 87½	87⅝@86⅞

CHICAGO CORN FUTURES.

Prices of futures on No. 2 corn per bushel in Chicago were as follows for the week:

	Sept.	Dec.
Wednesday	48¾@49⅝	44⅞@45⅜
Thursday	49¾@48⅝	45⅛@44⅝
Friday	48¼@49¼	45 @44½
Saturday	48⅜@49½	44⅜@45¼
Monday	48⅛@49½	45 @45⅛
Tuesday	48⅛@49¾	44⅞@45⅞

SAN FRANCISCO WHEAT FUTURES.

The range of values in San Francisco for No. 1 White wheat per cental was as follows:

	Dec., 1904.	May, 1905.
Thursday	$1 32¾@1 32¼	$——@——
Friday	1 32¼@1 31⅜	——@——
Saturday	1 31⅜@1 32	——@——
Monday	1 33 @1 34	——@——
Tuesday	1 33⅛@1 33⅜	——@——
Wednesday	1 32⅝@1 34	——@——

Wheat.

The local market has developed no pronounced changes the current week, hut there has been a generally firm tone, with prospects of a fairly activo shipping demand soonor or later, but at all events before the closo of the season. For some months past there has been littlo inquiry here for wheat other than on local milling account, and if growers had to depend all the time solely on local millers for a market, the chances are there would he a still further shrinkage in the wheat acreage of this State, although California is now producing little more of this cereal than required for home consumption. If it were not for importations from the North and East, partly of hard wheat which cannot he grown successfully here, we would have practically no wheat for export. Europe wants California wheat, however, because it is not hard and dark, using it as a blender with the hard wheat from other countries. Broomhall, an eminent authority, makes the following estimates: "The spring has been an unfavorable one in the southeast and parts of the southwest of Russia, in eastern Germany, in Hungary and in the northern part of the Balkan Peninsula. From all the evidence now availahle it appears certain that Europeau consumers will next season again he importers of foreign grain on a very large scale, and that a greater quantity than usual will have to he drawn from ex-European sources of supply. Austria-Hungary instead of heing an exporter on balanco of about 650,000 quarters, will prohably be an importer of a million quarters or more. Theso two deficiencies will leave Europe dependent upon outside sources of supply for 6,000,000 and perhaps 10,000,000 quartors more than was the case during the season just ending. During that time India will have contributed 7,000,000 quarters, Argentina over 10,000,000 quarters, Australia 3,500,000 quarters. Theso are all very substantial quantities and the question arises whethor they can he very matorially enlarged during the ensuing twelve months. India, we know, still has a substantial share of her crop to markct, prohably about 8,000,000 quarters, hut the Argentine and Australian surpluses are hypothetical quantities almost solely contingent upon the results of the crops which are just heing harvested. These three shippers will have contributed in the aggregate over 20,000,000 quarters in the twelve months ending July 31st; how much more are thoy likely to he able to ship noxt season? The remaining large sources of supply are the U. S. A. and Canada. The latter is promising well and ostimates of the crop to be harvested next August aro already running to hig figures, hut the most this grower has ever heen able to market is 4,000,000 quarters, and if this quantity should be increased by 50% or even 100%, a most unlikely event, thero would still be a considerable deficiency for the States to make good."

California Milling	$1 40	@1 50
Cal. No. 1 shipping, alongsidc	1 30	@1 32½
Oregon Club	1 27½@1 32½	

PRICES OF FUTURES.

During past week the range on options was:
December, 1904, delivery, $1.31⅛@1.34.
May, 1905, delivery, $——@——.
Wednesday, at the forenoon session of Exchange, December, 1904, wheat sold at $1.32⅞@1.34; May, 1905, $——@——.

Ocean freights and prices for wheat, as compared with a year ago, are as follows:

	1903-04.	1904-05.
Liv. quotations	6s6½d@6s7d	-s-d@-s-d
Freight rates	17½@18¾s	20¼@—s
Local market	$1 85 @1 87½	$1 30 @1 35

Flour.

There is a fair outward movement, mainly to Asia, hut local trade is of very moderate volume. Supplies are sufficiently large to admit of a much larger business than is being experienced. Quotable values remain as previously noted, and market not particularly firm at theso figures.

Superfine, lower grades	$3 15	@3 25
Superfine, good to choice	3 25	@3 50
Country grades, extras	4 00	@4 30
Choice and extra choice	4 30	@4 60
Fancy brands, jobbing	4 50	@4 80
Oregon, Bakers' extra	3 50	@4 00
Washington, Bakers' extra	3 50	@4 15

Barley.

While there is no great activity observable in the barley markot in this center, there are evidences of considerable doing in the interior. Relatively better figures are heing paid in some cases in the country than are quotahle here, especially for high grade harley, suitahle for export or brewing, the most urgent inquiry boing for this description. It is cited that California harley of last crop is offering in Liverpool at lower figures than new can ho laid down for at present values, but this statement is made in tho interest of huyers to have a bearish effect. The barley in question is in all prohability some faulty stock, worked in hy some unscrupulous shipper and which should never have been forwarded. There is no likelihood of choice California barley having to go hegging for custom this season.

Feed, No. 1 to choice new	$1 00	@1 02½
Feed, fair to good	97½@1 00	
Brewing, No. 1 to choice new	1 05	@1 12½
Chevalier, No. 1 to choice	1 12½@1 17½	
Chevalier, common to fair	97½@1 02½	

Oats.

Market is not burdened with offerings of any description, hut more particularly of choice to select qualities. Most of the California oats arriving at presont are Reds, and no hcavy proportion of these is strictly choice. For plump, clean and hright oats current values are being well maintained.

White oats, fancy feed, old	$1 32½	@1 35
White, good to choice, new	1 22½	@1 30
White, poor to fair	1 15	@1 20
Milling	1 22½	@1 30
Black oats	1 12½	@1 22½
Red, fair to choice	1 12½	@1 27½

Corn.

Market shows much the same condition as last noted. Spot stocks are not heavy, are principally Eastern product representing prior arrival purchases and are heing steadily held. At the comparatively stiff figures now ruling, however, the demand is not hrisk.

Large White, good to choice	$1 42½	@1 47½
Large Yellow	1 42½	@1 47½
Small Yellow	1 57½	@1 62½
Egyptian White	1 30	@1 75
Egyptian Brown	1 22½	@1 27½
Eastern, in bulk	1 35	@1 40

Rye.

The present inquiry is largely speculative, and hids are at a rather low range.

Good to choice, new	$1 17½	@1 27½

Buckwheat.

Market is bare of offerings. Prices now prevailing East are too high to admit of importing.

Beans.

There has been some movement Eastward in Large Whites the past week, hut in other kinds there has heen little doing. Limas are being quite firmly held, owing to rather poor prospects for coming crop. Quotahlo valucs throughout the list remain practically as last noted, but it is doubtful if free purchasing could be effected of most varietios without paying an advance. Large Whites and Bayos for the time heing incline most in favor of buyers.

Pea, fair to good, 100 lbs	$2 90	@3 15
Small White, good to choice	2 90	@3 15
Large White	2 40	@2 55
Pinks	3 50	@3 60
Bayos, good to choice	2 40	@2 60
Red Kidneys	4 50	@5 00
Reds	4 25	@4 75
Limas, good to choice	3 35	@3 45
Black-eye Beans	2 10	@2 20

Dried Peas.

Market is lightly stocked with either domestic or imported. Choice aro being quite steadily held.

Green Peas, California	2 50	@3 00
Niles Peas	2 50	@2 75
Garbanzos, large	2 75	@3 00
Garbanzos, Small	2 25	@2 50

Hops.

Little doing in this center, either in spot stocks of 1903 crop or in new hops to arrive. Tho latter are quoted nominally at 16@19c., but outside figures would be difficult to realize at this date. The New York Producors' Price Current says of the situation: "Brewors are roporting more business on account of warm weather, hut are not showing any interest in the hop situation as yet. The State crop is doing as well as last reported. In Washington the situation remains favorahle. Oregon still complains of too much dry weather. The brewers on the coast refuse to contract, but dcalers, however, are offering to sell November and Decemher delivery to brewers, 1904 crop, at prices cheaper than they can contract for at present. Reports from England show that there has not been much headway made against the vermin, but growers are fighting the pest. Reports from Germany and Bohemia continue exceedingly favorable."

California, good to choice, 1903 crop	23	@27

Wool.

Market presents a generally firm tone, hut in the ahsonco of noteworthy offerings from first hands there is little opportunity for business. That any noteworthy trading will be experiencod until Fall clip hegins to put in an appearance in wholesale quantity is not probahle. There is every prospect that desirahle Fall wools will meet with prompt custom at comparatively good figures.

SPRING.

Northern, free	20	@22
Northern, defective	15	@18
Middle Counties, free	15	@18
Middle Counties, defective	12	@15
Southern, 12 months	10	@12
Southern, 7 months	9	@11
Spring Lamb, Northern	14	@16
Spring Lamb, Southern	10	@13
Oregon, good to choice	18	@21
Nevada	14	@19

Hay and Straw.

While arrivals of hay are of tolerahly liheral volume, there is not much offering of strictly choice quality, and for this sort the market is rather firm at the prices prevailing. In some sections growers refuse to sell at values now current in this center. Common and medium qualities are in ample supply for the immediate demand. Straw is arriving moro freely and market is easier.

Wheat, good to choice	$11 50	@ 13 50
Wheat and Oat	10 00	@ 12 00
Tame Oat, fair to choice	8 50	@ 11 50
Wild Oat	7 00	@ 9 50
Barley	7 00	@ 9 50
Alfalfa	7 00	@ 10 00
Compressed	10 50	@ 13 00
Straw, ℔ bale	50	@ 75

Millstuffs.

Market for Bran and Middlings lacks firmness, with offerings on the increase and buyers slow to take hold at full figures asked. Rolled Barley and Milled Corn are without quotahle change, market heing decidedly steady. Oilcake Meal continues in light stock.

Bran, ℔ ton	$21 00	@ 22 00
Middlings	25 00	@ 28 00
Shorts, Oregon	21 50	@ 22 50
Barley, Rolled	21 50	@ 22 50
Cornmeal	31 00	@ 31 50
Cracked Corn	31 50	@ 32 00
Oilcake Meal	31 50	@ 33 00

Seeds.

For the several kinds quoted herewith values remain about as last stated. There is very little Alfalfa in stock and scarcely any Flaxseed. Thero are fair supplies of Yellow Mustard, mostly held at producing points south, but market is about hare of Brown or Trieste Mustard. Canary Seed is firm at tho quotations named and is likoly to go higher.

	Per ctl.	
Alfalfa, Cal., good to choice	$14 00	@16 00
Flax	1 80	@ 2 35
Mustard, Yellow	2 75	@ 3 25
Mustard, Trieste	4 25	@ 4 50
	Per lh.	
Canary	6¼@ 7	
Rape	1¾@ 2¼	
Hemp	3½@—	
Timothy	5 @ 5½	

Honey.

There are no heavy quantities offering, neither is there much demand. Inquiry is mostly on local account and is largely for strictly select water-white. The proportion of latter sort is decidedly light in present supplies. Market for amher grades is not displaying any noteworthy firmness.

Extracted, White Liquid	5½@ 6	
Extracted, Light Amber	5 @ 5½	
Extracted, Amber	4 @ 4½	
Extracted, Dark Amber	3¼@ 3¾	
White Comb, 1-frames	12½@13	
Amber Comb	9 @11	

Beeswax.

The samo firm tone previously noted continues to prevail, stocks heing of very scanty proportions.

Good to choice, light ℔ lb	28	@30
Dark	26	@27½

Live Stock and Meats.

Beef was in fair supply, with demand only moderate and mainly for hest qualities; prices were without quotable change. Small Veal was not in large receipt, but there was enough for demand at full current figures. Large Voal was in excessive supply and lower. Market, for Mutton and Lamb is somewhat easior, owing to increased arrivals, but for most desirable offerings current figures are boing well maintained. Hog market is showing steadiness, with receipts only moderate; that materially lower prices will be experienced this scason is not considered prohable.

Allowing for the shrinkage of about 50%, which is exacted in buying cattle on the hoof, live cattle command as much or more per pound than dressed beef, the shrinkage exacted being the slaughterers' profit.

The following quotations for beef and mutton are hased on prices realized by slaughterers from wholcsale dealers:

Beef, 1st quality, dressed, net ℔ lb	6½@—
Beef, 2nd quality	5½@—
Beef, 3rd quality	4 @ 5
Mutton—ewes, 6½@7c; wethers	7½@—
Hogs, hard grain, 140 to 200 lbs	4¾@—
Hogs, large, hard, over 200 pounds	4¼@ 4½
Hogs, small, fat	4½@—
Veal, large, ℔ lb	5 @ 6
Veal, small, ℔ lb	8 @ 9
Lamb, spring, ℔ lb	9 @10

Hides, Skins and Tallow.

Hides and Pelts showing prime condition are in good request at full current figures. Market for Tallow is rather easy in tone, quotations remaining unchanged.

Nothing hut select hides, clean and trimmed will hring full figures. Culls of all kinds, either from grubs, cuts, hair slips, side brands or murrain, are not always readily placed at the lower figures.

	Sound.	Culls.
Heavy Steers, over 56 lbs	— @ 9½	— @ 8
Medium Steers, 48 to 56 lbs	— @ 8½	— @ 7½
Light Steers, under 48 lbs	— @ 8	— @ 7
Heavy Cow Hides, over 50 lbs.	— @ 8	— @ 7
Light Cow Hides, under 50 lbs.	— @ 8	— @ 7
Stags	— @ 6	— @ 5
Wet Salted Kip	— @ 9	— @ 8
Wet Salted Veal	— @10	— @ 9
Wet Salted Calf	— @11	— @10
Dry Hides	— @16	— @15
Dry Kip and Veal, 11 to 16 lbs.	— @13	— @12
Dry Calf, under 4 lbs	— @18	— @16
Pelts, long wool, ℔ skin	1 00@1 50	
Pelts, medium, ℔ skin	70@ 90	
Pelts, short wool, ℔ skin	40@ 50	
Pelts, shearling, ℔ skin	15@ 30	
Horse Hides, salted, large prime, each	2 75@——	
Horse Hides, salted, medium	2 25@2 50	
Horse Hides, salted, small	1 25@——	
Horse Hides, dry, large	1 75@——	
Horse Hides, dry, medium	1 25@——	
Horse Hides, dry, small	1 00@——	
Tallow, good quality	4 @4½	
Tallow, poorer grades	2½@3½	

Bags and Bagging.

No special activity observable in bags or bagging of any description. Trado in Grain Bags is decidedly light for this time of year.

Bean Bags	¼@5	
Fruit Sacks, cotton	6¾@6¾	
Fruit Sacks, jute, as to quality	5¾@7	
Grain Bags, Calcutta, 22x36, spot	5½@5¾	
Grain Bags, San Quentin, ℔ 100	5 40	@——
Wool Sacks, 4-lb	32	@——
Wool Sacks, 3½-lb	30	@——

Poultry.

The supply of young chickens, especially of Fryers and Broilers, has heen ahead o the demand most of the week. Old chickens, more particularly Hens, which were large and fat, were in fair request, hringing better average prices than greater part of previous week. Four carloads of Eastern poultry arrived, principally full-grown chickens. Turkeys were in light receipt, as were also Geese, and not many of either were wanted. Markct for choice Ducks inclined slightly in favor of sellers. Inquiry for Pigeons was not very hrisk, either for Young or Old.

Turkeys, live gobblers, ℔ lb	$ 14	@ 15
Turkeys, live hens ℔ lb	14	@ 15
Hens, California, ℔ dozen	4 50	@ 5 00
Hens, large	5 00	@ 5 50
Roosters, old	4 00	@ 4 50
Roosters, young (full-grown)	6 50	@ 7 50
Fryers	4 00	@ 5 00
Broilers, large	2 50	@ 3 50
Broilers, small to medium	2 00	@ 2 50
Ducks, old, ℔ dozen	4 00	@ 4 50
Ducks, young, ℔ dozen	4 00	@ 5 00
Geese, ℔ pair	1 25	@ 1 50
Goslings, ℔ pair	1 25	@ 1 50
Pigeons, old, ℔ dozen	1 50	@——
Pigeons, young	1 25	@ 1 50

Butter.

There has heen cutting of prices the past week, mainly on fresh creamery product, several houses having a surplus of box hutter sending out cards offering choice creamery squares at 21c. Other houses naturally had to follow the cut or lose trade. In a small way 22@22½c was roalized for favorite marks delivered to special custom. Eastern croamery in cubes is heing landed here at 19@20c, and considerable of the same is heing cut into squares for the present market.

Creamery, extras, ℔ lb	21	@—
Creamery, firsts	20	@—
Creamery, seconds	19½@—	
Dairy, select	20	@—
Dairy, firsts	19½@—	
Dairy, seconds	17½@18½	
Cold storage	—	@—
Mixed Store	13½@14	

Cheese.

Domestic flats are not in heavy stock, and for desirable qualities the prevailing values aro being tolerably well maintained, demand being fair. Prices for Young Americas are without quotahle change, hut only in a limited way is extreme figure ohtainable.

California, fancy flat, new	9½@10	
California, good to choice	9 @ 9½	
California, fair to good	8¼@ 9	
California, "Young Americas"	10 @11	
Eastern	10 @13	

Eggs.

The advanced figures estahlished last week for choice to select fresh have causod a decrease in demand. Only the most select can he dependod on to bring top figures. Nearly all of the large consumers and many of tho retailers are running principally on Eastern eggs, which are in fairly liheral supply.

California, select, large, white and fresh.	26	@27½
California, select, irregular color & size.	23	@25
California, good to choice store	20	@22
Eastern firsts	20	@22
Eastern seconds	16	@19

Vegetables.

Market was liberally stocked with most of the mid-summer varieties, and it was the exception where prices did not incline in favor of huyers, especially for other than most select qualities. Offerings of Green Corn included little which was not more or less faulty. Tomatoes were in free receipt, but it was the exception where they were fully ripe. Red Onions arrived sparingly, the season for this

variety being well advanced. Yellow Onions were in rather light supply and were as a rule quite firmly held.

Beans, Lima, ₱ lb	6	@	7
Beans, String, ₱ lb	2	@	4
Beans, Wax, ₱ lb	2	@	4
Cabbage, choice garden, ₱ 100 lbs	1 00	@	1 25
Corn, Green, ₱ crate	1 25	@	1 75
Cucumbers, ₱ large box	25	@	40
Egg Plant, ₱ box	50	@	1 00
Garlic, new, ₱ lb	3	@	4
Okra, Green, ₱ lb	8	@	10
Onions, Cal. Red, ₱ sack	1 40	@	1 50
Onions, Yellow Danver, ₱ ctl	1 60	@	1 75
Peas, sweet garden, ₱ lb	3½	@	4½
Peppers, Green, ₱ box	40	@	1 00
Rhubarb, ₱ box	40	@	75
Summer Squash, ₱ box	20	@	30
Tomatoes, ₱ crate	40	@	85
Tomatoes, River, large box	1 25	@	1 50

NOTE.—Large boxes are what are known to the trade as "pay boxes," which have to be returned or paid for. They are open top, with hand holes in the ends, and weigh when filled from 50@60 lbs gross. Small boxes are free boxes, about the same as the regular fruit box, weighing when full from 20 to 30 lbs. gross.

Potatoes.

There were no pronounced declines in quotable values for New Potatoes, but market was generally easier, receipts being somewhat ahead of the immediate demand. There are some Old Oregon Burbanks still on the market, but they are receiving very little attention.

Old Oregon Burbanks	85	@	1 10
New Salinas Burbanks, ₱ cental	1 75	@	2 15
New Potatoes, white, ₱ cental	1 25	@	1 90
New Early Rose, ₱ cental	1 25	@	1 50
New Garnet Chile	1 25	@	1 40

Fresh Fruits.

Market showed a generally better condition than previous week, the aggregate arrivals being lighter, with demand fairly active for desirable kinds and best qualities. Apples were plentiful, but were mostly common, and for such the markct lacked firmness; choice Gravenstein brought tolerably good figures. Apricots of choice to select quality were favored with a firm market. Bartlett Pears were rather plentiful, mostly No. 2s, and for this sort the market lacked firmness. Peaches were in reduced receipt and best brought good figures. Plums sold at a wide range, only choice large meeting with special favor. Nectarines did not receive much attention. Grapes in prime to choice condition sold fairly well, but such as were unripe or otherwise faulty moved slowly at low figures. Figs were in light receipt and in a small way choice commanded good prices. Cantaloupes and Nutmeg Melons were held at about same range of values as last quoted. Watermelons were in good supply and cheaper, with offerings mainly Fresno product. Berries of nearly all varieties now quotable brought better prices than last week, there being a material decrease in the arrivals.

Apples, Gravenstein, ₱ 50-box	1 35	@	1 50
Apples, good to choice, 50-lb. bx	75	@	1 25
Apricots, ₱ crate	50	@	90
Apricots, ₱ ton	25 00	@	50 00
Blackberries, ₱ chest	2 50	@	4 00
Cantaloupes, & crate	1 25	@	2 50
Crabapples, ₱ box	50	@	1 00
Figs, small bx, 81@1.50; large bx	2 00	@	2 50
Grapes, Black, ₱ crate	75	@	1 25
Grapes, Seedless, ₱ crate	1 00	@	1 50
Huckleberries, ₱ lb	8	@	12½
Loganberries, ₱ chest	2 50	@	4 00
Nectarines, White, ₱ crate	35	@	40
Nutmeg Melons, ₱ box	1 00	@	1 50
Peaches, ₱ large box	75	@	1 00
Peaches, ₱ small box	35	@	70
Pears, No. 1 Bartlett, ₱ 40-lb box	75	@	1 00
Pears, Bartlett, No. 1, ₱ ton	30 00	@	—
Pears, other varieties, small box	50	@	75
Plums, Large, ₱ box	40	@	75
Plums, in bulk, ₱ ton	20 00	@	30 00
Prunes, Tragedy, ₱ box	40	@	75
Raspberries, ₱ chest	4 00	@	7 00
Strawberries, Longworth, ₱ chest	4 00	@	6 00
Strawberries, large, ₱ chest	2 00	@	4 00
Watermelons, ₱ 100	7 00	@	25 00

Dried Fruits.

In the way of new crop dried fruits, Apricots and Apples are putting in an appearance in quotable quantity, and are by no means being neglected, especially desirable qualities. Although dealers are inclined to be conservative in their bidding, they are at the same time anxious to secure good to choice qualities, and offerings of the latter sort are meeting, as a rule, with a moderately firm market. Early deliveries of choice evaporated Apples are commanding 7@7½c, with prices about ½c lower for late July and early August shipments. In Apricots there is a fair business doing, with prices at a tolerably wide range as to difference in quality, and market rather firm for choice to select, but not noteworthy for firmness for common qualities. For standard Royals 7c is an inside figure, with fancy quotable up to 10½c in carload lots at primary points. Values for Moorparks are not well defined, in the absence of noteworthy offerings, but choice would be difficult to obtain under 11c, and for fancy a cent or more advance on this figure would likely have to be paid. Peaches are in good request and market firm on basis of 5¾@6c for good to choice and up to 8½c for extra select, with few of latter sort offering for forward delivery. On Pears dealers quote 5½c for ordinary halves, October delivery, and 7½@10c for choice to fancy. Prunes are quiet for the time being and are not quotable over the 2c sack basis for the four sizes, although with anything like an active demand in the near future better prices would have to be paid. That the Washington and Oregon Prune crop will be practically a failure this season there appears to be no doubt. The Seattle Post-Intelligencer says: "P. F. Kelley of the Kelley-Clarke Co. has stated that he estimated the crop at about one-tenth of what it was last season. Several statements have been made during the past month that the season was an exceptionally poor one for the prune growers, but the extent of the depreciation in the output was not definitely known until the past week. The condition of the fruit at this time, however, is claimed to make a one-tenth estimate a conservative one. Mr. Kelley says: In Clarke county, where last year the output was between 150 and 160 cars, it is probable that the evaporators will not even be operated this season. The shortage, so far as we are able to tell, applies to the entire State and to Oregon. When the trees first blossomed the pollen fell off prematurely, for some unknown reason, and to this cause is assigned the failure of the crop." The German steamer Luxor, sailing on 16th inst. from this port, carried 64,189 pounds Prunes for Germany. The steamer City of Pueblo, clearing on 14th for British Columbia, carried 47,500 pounds dried fruit, including 24,750 pounds Prunes, mostly for Winnipeg.

EVAPORATED OR BLEACHED.

Apples, 50-lb boxes, rings, pressed, good to choice	5½@ 6
Apples, extra choice to fancy, 50-lb boxes	6½@ 7½
Apricots, Moorpark	9 @11
Apricots, Royal, good to choice, ₱ lb	7½@ 8
Apricots, Royal, fancy	9 @10
Figs, 10-lb box, 1-lb cartons	50 @65
Peaches, unpeeled, choice	5¾@ 6¼
Peaches, unpeeled, fancy	7 @ 7½
Plums, Black, pitted	4½@ 5
Plums, Yellow, pitted	5 @ 7
Prunes, Silver, good to fancy	2½@ 5
Prunes, in bags, 4 sizes, 1⅞@2c; 40-50s, 3½@3¾c; 50-60s, 3@3¼c; 60-70s, 2½@2¾c; 70-80s, 2@2¼c; 80-90s, 1⅝@1⅞c; 90-100s, 1½@1⅝c; small, ¾@1o.	

COMMON SUN-DRIED.

Apples, sliced	3½@ 4½
Apples, quartered	3½@ 4½
Figs, White, in bulk	2½@ 3½
Figs, Black	3 @ 4

Raisins.

The market is quiet, with no changes in quotable values. That business will continue of a light order until the opening of the coming season is altogether probable.

Following are current quotations for raisins as announced by the Growers' Association of Fresno for crop of 1903, f. o. b. at Fresno, subject to change without notice:

Standard Grades—	50-lb. cases, Per lb.
2-Crown Loose Muscatels	4 c
3-Crown Loose Muscatels	4¼c
4-Crown Loose Muscatels	—c
Seedless Loose Muscatels	3¼c
Seedless Floated	3½c
2-Crown Malaga Loose	3¾c
3-Crown Malaga Loose	4 c
Seedless Sultanas, Unbleached	3¼c
Seedless Thompson's, Unbleached	—c

SEEDED.

Fancy 16-oz. Cartons, ₱ lb	5½c
Fancy 12-oz. Cartons, ₱ pkg	4½c
Fancy Bulk Cartons, ₱ lb	5¼c
Choice, 16-oz. Cartons, ₱ lb	5¼c
Choice, 12-oz. Cartons, ₱ pkg	4¾c
Choice, Bulk Cartons, ₱ lb	5 c

Citrus Fruits.

While Valencia Oranges are not in heavy stock, there are more than enough for the immediate demand at full current figures, the inquiry not being brisk. Lemon market is without appreciable change, values ruling steady, with demand moderate and supplies ample for current requirements. The Lime market continues quotable as last noted.

Oranges, Valencias, ₱ box	1 25	@	2 75
Lemons, California, select, ₱ box	2 50	@	——
Lemons, California, good to choice	1 75	@	2 25
Lemons, California, fair to good	1 25	@	1 75
Limes, Mexican, ₱ box	4 00	@	4 50

Nuts.

The Almond market is firm, and there is a good inquiry for coming crop. Dealers are bidding 11c for Nonpareils, 10c for Ne Plus Ultras, 8½c for Languedocs, and for other varieties are naming figures in keeping with above. There will be something doing in Walnuts as soon as the crop is ready for delivery; spot stocks are practically exhausted.

California Almonds, shelled	16	@19
California Almonds, paper shell	11	@12½
California Almonds, soft shell	9	@11
California Almonds, hard shell	5	@ 6
Peanuts, fair to prime	4½@	5½

Wine.

There have been no special changes in the wine market since date of last review. Dry wines of 1903 vintage are quoted at 15@17c. per gallon, San Francisco delivery, but outside figure is more in accord with prices asked than with the bids of wholesale dealers. For sweet wines of 1903 30c. per gallon is asked for deliveries at wineries. Considerable damage from mildew is reported in some of the vineyards in the Northern counties. Where sulphuring was resorted to in time no serious injury resulted. The steamer Barracouta, sailing on Saturday last, carried 51,152 gallons and 20 cases, including 49,886 gallons for New York. Receipts of wine at San Francisco last week were 279,800 gallons, and for preceding week were 260,625 gallons.

Produce Receipts.

Receipts and exports of leading cereals and other California products for the past week and for the season to date, as compared with the corresponding time the previous year, are as follows:

FOR THE WEEK.		Since July 1, 1904.	Same time last year.
Flour, ¼ sks	156,477	186,490	207,241
Wheat, ctls	4,314	20,525	65,188
Barley, ctls	23,283	67,584	135,942
Oats, ctls	15,436	23,056	24,990
Corn, ctls	808	2,292	2,852
Rye, ctls	65	585	1,790
Beans, sks	1,792	5,515	2,375
Potatoes, sks	19,119	40,077	54,313
Onions, sks	2,881	5,122	8,790
Hay, tons	3,788	6,962	10,053
Wool, bales	937	1,561	1,764
Hops, bales	50	50	100

EXPORTS BY SEA.

FOR THE WEEK.		Since July 1, 1904.	Same time last year.
Flour, ¼ sk	121,816	154,152	163,048
Wheat, ctls	142	857	12,384
Barley, ctls	4,015	14,707	56,196
Oats, ctls	28	356	1,086
Corn, ctls	14	481	780
Beans, sks	168	507	1,206
Hay, bales	475	4,127	4,070
Wool, lbs	129,848	225,977	132,002
Hops, lbs	2,482	2,512	5,582
Honey, cases	21	21	18
Potatoes, pkgs	1,422	2,019	4,945

How Advertising Good Live Stock Works.

TO THE EDITOR:—I thought possibly you would like to hear from me in regard to some recent sales I have made through advertising in your paper. To Mr. J. Stevens of Acapulco, Mexico, I sold seventeen head of Red Polled bulls and heifers. To Mr. Paul R. Isenberg of Honolulu, H. I., five head of Red Polled bulls and also twelve head of Shropshire rams. To Mr. T. Monroe of Island, Hilo, H. I., thirty head of Shropshire rams. Mr. August Schmidt of Salinas bought fifty head of full blood Shropshire ewes. To Mr. J. L. Hutchins of Central House 100 head of Shropshire ewes. To Mr. J. Simpson of Glenn county 100 head of hornless American Merinos. To Mr. Dam of Wheatland thirteen head of hornless American Merino rams. These are a few of the sales I have made within the last month. F. A. MECHAM.

Petaluma.

New Patents.

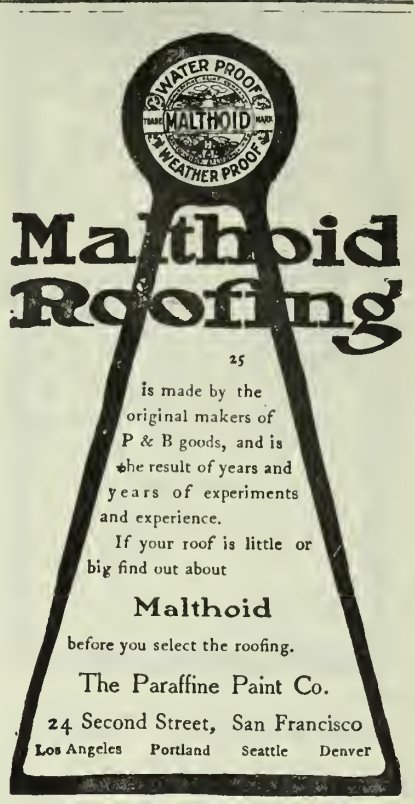
DEWEY, STRONG & CO.'S SCIENTIFIC PRESS PATENT AGENCY, 330 Market St., S. F., has official reports of the following U. S. patents issued to Pacific coast inventors:

FOR THE WEEK ENDING JULY 5, 1904.

764,266.—TEMPORARY BINDER—J. W. Ameath, S. F.
764,102.—LOOSE LEAF BOOK—H. W. Ayers, Los Angeles, Cal.
764,034.—AGRICULTURAL MACHINE—G. L. Bradley, Mayview, Wash.
764,418.—TROLLEY—J. S. Briggs, Los Angeles, Cal.
764,224.—TROLLEY—J. Q. Brown, Oakland, Cal.
763,956.—INDICATOR—G. A. Browne, Tacoma, Wash.
764,117.—PIANO SOUNDING BOARD—A. Dodd, Los Angeles, Cal.
764,283.—IMPLEMENT—C. Ehrenfeld, Pasadena, Cal.
764,236.—SAFETY ELEVATOR—M. Griffin, S. F.
764,464.—ROTARY ENGINE—C. Hendricks, Riverside, Cal.
764,465.—ROTARY ENGINE—C. Hendricks, Riverside, Cal.
764,191.—HEATER—H. F. Hoesman, San Jose, Cal.
763,982.—ROTARY ENGINE—J. Jahn Jr., Riverside, Cal.
764,581.—GENERATOR—J. M. Kroyer, Stockton, Cal.
763,989.—POWER APPARATUS—H. Laughlin Jr., Los Angeles, Cal.
764,060.—PENHOLDER—L. Lemos, S. F.
764,249.—LOCK—A. F. Mayer, S. F.
764,067.—ROTARY ENGINE—C. A. McCallister, Seattle, Wash.
764,198.—AIRSHIP—J. D. McFarland Jr., Fruitvale, Cal.
764,197.—CONCENTRATOR—C. H. Muhleman, Los Angeles, Cal.
764,000.—DOOR SCREEN—Newell & Schuyler, Los Angeles, Cal.
764,072.—KINDLING—Perry & Dickson, Tacoma, Wash.
764,205.—HARVESTER—A. D. Reynolds, S. F.
764,500.—MATTRESS FILLING MACHINE—F. A. Ricc, S. F.
764,150.—DRIER—J. A. Ridlngs, Marquam, Or.
764,305.—SASHHOLDER—J. L. Rivers, S. F.
764,082.—PRINTING PLATES—W. G. Thorpe, Los Angeles, Cal.
764,166.—RAILROAD SWITCH—Troutman & Gonzales, Los Angeles, Cal.

METHOD OF FIGHTING ARMY WORMS.—Tulare Register: The army worm or something that looks like and eats like the army worm, has been doing considerable damage in some parts of the county, and the farmers are rather at a loss what to do about it. M. L. Weigle has been fighting the pest and says he has killed legions of the worms. He plows a deep trench and when it fills up with worms he puts fire to it. Mr. Weigle advises immediate cutting of alfalfa where the worm has made its appearance, in order that the eggs may be destroyed. The presence of the worm is indicated by the alfalfa turning white.

PLENTY OF GRAPES.—Visalia Times: Ex-Supervisor W. E. Hawkins, from Dinuba, says that preparations are being made to handle a big grape crop in that section this year. The grapes will be of first-class quality and the threatened invasion of the army worm to destroy the crop has now vanished. The army worm seems to have disappeared entirely and all apprehension from this source has ceased.



PATENTS

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AGRICULTURAL ENGINEER.

Report on Drainage Investigations.

The U. S. Department of Agriculture has issued Bulletin No. 147, Office of Experiment Stations, giving a report on the drainage investigations carried on during 1903 under the direction of Elwood Mead, chief of irrigation and drainage investigations of this office, by C. G. Elliott, expert in charge.

The object of the report is to show the possibilities of drainage and the methods of accomplishing it most effectively and economically under a variety of typical conditions. The work carried on by Mr. Elliott during the past year included plans for reclaiming alkali lands at Fresno, Cal.; surveys and investigations in Yakima and Atanum valleys, Washington, and in Grey Bull Valley, Wyoming; plans for the drainage of overflowed bottom lands in the Missouri Valley in Iowa; and experiments with the use of drains to prevent hillside erosion in Georgia.

For Alkali.—In the district about Fresno, Cal., where the water plane in the once dry soil had reached in places a distance of but 2 feet from the surface, the injury to crops from an excess of water in the soil and the accumulation of alkali was apparent over a large area. Surveys were instituted to determine the proper arrangement of drain ditches. Plans were made for two methods of drainage, one employing open ditches, the other drain tile. The drain-tile plan, while making the first cost less than the open-ditch system, since no provision has to be made for the land taken up and the crossings of roads and irrigation canals, requires ample provision for scouring the drains and operating pumps.

The abundance of the water supply and the apparent necessity for its liberal use upon the lands under Sunnyside canal in the Yakima valley, Washington, have hastened the filling up of the soil with surplus water. At the edges of the slopes are saturated spots, and in many places alkali has accumulated to an injurious extent. Test wells were sunk and a close study of the fluctuations of the water level was made. The source of the oversupply and the nature of the substrata having been determined, the depth and grade of proposed drains were shown upon a map furnished to the owners of the land.

In this, as in all other cases, it is made evident that a thorough knowledge of conditions governing the movement of water in the soil is essential. The expense in each case is estimated according to local conditions, and an ample margin of safety is allowed. In each district the disposal of drainage water receives careful attention, and cautions as to the necessity for studying local conditions are added. The top and bottom widths of ditches necessary for permanent maintenance were carefully estimated. The ditches are planned to provide also for winter storm water. The attention given to these typical cases shows the value of the expert advice on questions of drainage provided by the Department of Agriculture.

In the Atanum valley, in order to remove alkali from abandoned lands and protect hop fields from its inroads, it is necessary to drain the subsoil, so that the alkali dissolved and washed down from the surface may be carried away from the lower levels. Directions for making ditches which will accomplish this are part of the report. The plan for the drainage of a farm of eighty acres in this valley, while applicable to particular conditions, suggests how drainage may be made to counteract excessive subirrigation. Practical work in the removal of alkali is illustrated by the description of the reclamation of seventy-two acres in Kittitas county, Wash.

Although it is but seven years since irrigation began under the Farmers canal in Grey Bull valley, Wyo., there are boggy tracts of considerable extent at the foot of the benches, which are now given over to aquatic grasses, where formerly some of the most productive land of the valley was found. In other places the deposits of white alkali have destroyed the productiveness of the soil. While there is a gravel vein of great thickness that receives and conducts away from the benches the surplus water applied in irrigation, a stream of impervious clay finally arrests the downward course of the water and turns it to the surface at the foot of the benches, and alkali accumulates wherever the surface is exposed to evaporation. The remedy suggested is to deepen the ditches provided for waste until they strike well into the gravel, at the same time arranging them so that the seepage water collected in them may be discharged into ditches lower down, thus adding somewhat to the supply. More frequent watering will be required on this than on land with clay subsoil, but the distribution of water should be more directly and carefully made. That a provision for disposing of the excess of water would also relieve the land of alkali deposits is evident from the fact that the alkali washed out of this gravelly bottom land at each irrigation, if left during one season, would destroy a crop.

For Standing Water.—An entirely different problem in drainage is presented by conditions along the Missouri river in western Iowa. This very fertile country is lower than the banks of the rivers which form its boundaries and is threatened with overflow whenever the river rises. Two features are included in the plans for relieving this situation. First, the construction of a ditch to carry water from the Little Sioux across the intervening triangle and deliver it into the more capacious channel of the Missouri; second, the straightening of the channel of the Little Sioux by cutoffs. By the wise provisions of the State drainage laws, the entire cost of these improvements can be met by issuing bonds, which will be amply covered by the returns from the reclaimed land. While the need of underdrainage is not lost sight of, the emphasis here and in the districts of Hancock county, Iowa, is laid upon the improvement of the natural channels for carrying off water.

The prevention of hillside erosion by underdrains was the object of an experiment made upon a farm in northern Georgia. Lines of drain tile were laid across the slope to intercept water, which, oozing through the soil and dropping out at some lower point on the surface of the soil, formed seeped spots, the starting points of surface washing which in time made wide and deep gullies that necessitated the abandonment of the whole field. After the tile was laid the gullies were filled and the surface graded and dressed in such a way that all surface water would be scattered instead of concentrated. In the season that has elapsed since the improvement was made a crop has been raised and no washing has occurred.

Throughout the report the necessity for making complete preliminary surveys and for gathering full data in regard to each locality is made apparent. The question of the adaptability of different methods of drainage is in each case considered, while the legal and economic aspects of each problem are not lost sight of.

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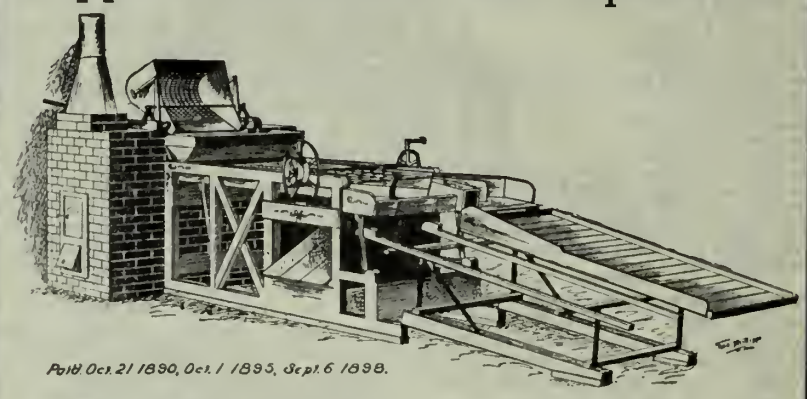
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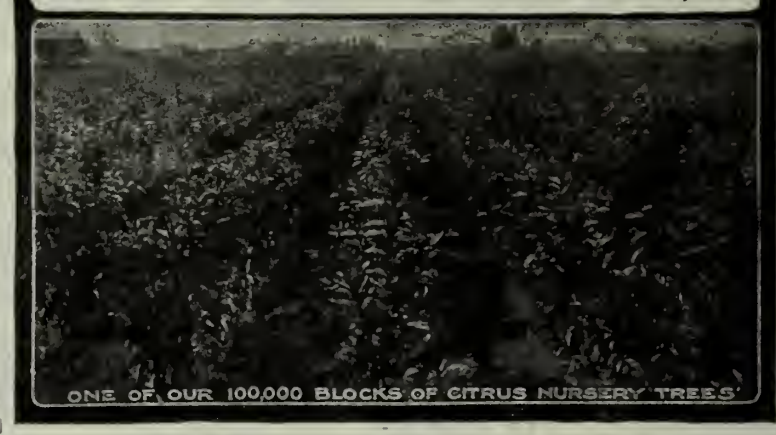
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THE POULTRY YARD.

Broodiness in Hens.

By JAMES SHACKLETON, in the Petaluma Weekly Poultry Journal.

To me it seems fully time for poultry keepers to learn something about the true causes of broodiness in hens, how to cultivate it, how to obviate it, how to cure it when not wanted. Not that I know all about it, but the usual comfortable assignment and settlement of an act of an animal or bird as being due to "instinct" does not satisfy me, even if it be true.

Most hens are quite fat when they become broody, and it is almost certain they become broody because they are fat. Having settled on a nest they want to stay there even if their fat disappears. Most hens that become broody do so in genial weather, as seems natural, since they cannot easily rid themselves of fat then. But if you make hens of broody kinds fat in November or December, in a cold climate, they are likely to manifest desire to sit in depth of a Northern winter. There are some hens that seem ready to sit whenever they see a fair sized clutch of eggs. Let me tell a story about that. We had a hen of this type. She was the greatest hustler we ever saw. She could keep in a comfortable condition of embonpoint under such conditions that other hens could get barely enough. And she wanted to hatch and rear chicks at every opportunity. She was a fine layer, would never sit on an empty nest as some hens will for several weeks, but any lot of eggs she found of any hen, duck, goose or turkey, were hers for hatching instanter. Ordinarily rather timid, she would fight anything on two or four legs under those circumstances. And she kept her prowess as long as she had youngsters to rear. Then dropped back to timidity. She could and did raise about every chick she ever hatched much faster and better than other hens raised any. And she has been stolen from us. Here's a curious point. She was half Wyandotte, half the scrubbiest of scrubs. Her mother was a scrub, but the best layer we ever knew of any breed. Her mother was never broody in her five years of life, would never permit a chick near her. Her business was solely to lay eggs, keep out of the way of males, and say nothing. And she has been stolen, too. Isn't it hard?

Well, I think all readers will grasp my notion that if you want broodiness just make the hens fat; if you don't want broodiness keep them lean. And don't try to keep them lean by serving meager rations that are chiefly fat producing or you will just reduce egg yield, and the hens will get fat, too.

But you will have some broodiness unless your birds are all Leghorns or similar, in spite of any efforts, and that brings us to the cure for broodiness after it appears. Let the many old fashioned ways of treating broody hens be dismissed as all silly and some of them cruel.

But we are still instructed to put a broody hen out on a range and feed her nothing. On this I will say that some broody hens won't be cured the least bit by such procedure. They will sit for a week or two weeks on a totally empty nest without any food at all, then leave it to find a little food and go back for another week. We are told they will forget to be broody. I fancy this is pure imagination. And we are instructed in a fine variety of ways how to discourage broodiness. A little common sense and a little poultry experience show most of these plans to be absurd. But here is a way I think beyond cavil. It is not cruel, nor is it starvation, and I think it beats any other method for speed. Construct a coop all slats, 2 inches apart on sides, ends and top, 1 inch apart on bottom. Put the coop on legs or swing it by a cord so the air will circulate freely under the coop. A hen put in such a coop will find it impossible to keep her under body warm, which will discourage her broodiness tremendously. Then feed her liberally on a mash of very narrow ratio, say, for instance:

Two pounds whole oats.
One pound wheat bran.
One pound wheat middlings.
One-half pound animal meal.
One-half pound raw ground bone.

She will be bound to lay speedily on that, and when she lays she will not desire to sit any more. Then put her back in regular quarters and feed her as usual. Forty-eight hours is usually more than the time necessary for this recipe to act. The advantage of swinging the coop by a single cord is that every movement of the hen will cause oscillation, which tends to discourage her sitting, and also helps air circulation under her body.

Poultry at the State Fair.

TO THE EDITOR:—The sight of the average farmer's poultry yard puts one in mind of the man's description of his dog, which he said was one-eighth setter, one-eighth greyhound, and the rest "just dog." There is a mixture of all sorts of breeds until all distinction and characteristic is lost. The good points of each breed are so generalized by the cross breeding that their value is lost and the flock becomes one of common scrubs.

This, and the neglect of cleanliness, pure water and suitable feed, are the main causes that lead so many farmers to say, "Oh, there is no money in poultry. It don't pay to bother with it" And yet San Francisco alone imports every year from other States 175 carloads of eggs and a like amount of poultry. In 1900 California's output in poultry was $4,196,268, with 24,443,540 dozens of eggs, but they do not nearly supply the demand, which would be greater if it could be supplied. Last winter the main supply of eggs in the cities was Eastern eggs, California eggs were scarce and at times almost impossible to get. This was largely due to the intermingling of breeds spoken of, through which the egg producing qualities were lost, and largely to the lack of care in feeding and taking care of the birds on the farm. Those engaged in raising poultry on a business basis, however, reaped a harvest, the demand for their eggs at high prices exceeding the supply by far, and good poultry has been high all the year.

Why does not the farmer attend the State Fair and make a good visit to the poultry show. He would find the breeders on hand more than willing to give him all the information he desires about the different breeds and their care, things necessary for him to know in order to secure success. He would learn what are the breeds he must raise in order to produce the best supply of eggs and what breed he wants if he desires to supply the market. He would learn that it is not desirable to cross the breeds. He will find that Leghorns crossed with Brahmas or Cochins do not make a larger breed than the latter, and the infusion of Brahma or Cochin blood does not add to the egg producing power of the Leghorns. These things he would learn and many more, and if he were wise he would buy some choice specimens of the breed best adapted to what he desired to do and would take them home and get rid of all his other roosters and eliminate the cross-breeds from his flock as soon as he could conveniently. As the day of sneering at scientific farming as a "new fangled way" is passing away, so is that of the scrub chicken that lays 50 eggs a year instead of 150 or 200.

The poultry exhibit this year at the State Fair promises to be better than ever before, as well as larger, and those who attend the fair will have a chance to gain much information and buy some fine fowls, if so disposed, and start poultry plants that will bring them large returns. OBSERVER.

What a Breeder Thinks About the State Fair Display.

TO THE EDITOR:—The coming State Fair, now but four weeks distant, will see the gathering of thousands interested in live stock breeding, a very important and fascinating department of which will be the poultry display of chickens, turkeys, ducks, geese and pigeons, which appeals very strongly to the lady visitors, as to them usually on the average farm falls the care and feeding of the feathered stock.

The educational features of these annual shows, coupled with the information extended by the agricultural journals like the PACIFIC RURAL PRESS, and similar publications, is bearing fruit as never before, the farmers and orchardists seeing the growing importance of the poultry industry are giving more attention to this branch of ranch products, and seeing the advantages of pure blooded stock over that of the mongrels heretofore kept, are rapidly doing away with these and installing thoroughbreds, thereby increasing the profits from their fowls in increased egg production and better prices for dressed poultry on account of the uniform size, shape and color of their shipments of dressed fowls.

That there is still room for improvement is shown by the statement of a gentleman—whose business is gathering figures on such things—that less than 1-10th of 1% of the farmers of the United States kept thoroughbred poultry.

I believe the poultry display at Sacramento will be the largest in the history of the State Agricultural Society, and a time spent among the fowls and with the exhibitors will be an object lesson not soon forgotten and of immense benefit to those who, as a rule, seldom see the exhibits displayed under management of the various poultry associations.

It is the farmer who is best fitted to produce the best in a general way the bulk of the table fowls that are found in local markets, and with the advantages shown and the direct communication with the breeders there should be a noticeable increase the coming year in production of pure blooded feathered stock, as at this season breeders' ranges and yards are crowded with rapidly growing young stock, and the necessity for room compels the sale of birds at a price much lower than would be quoted some months later when the demand is heavy for immediate use.

A pen of fowls purchased at this time can be cheaply quartered during the short time before the hatching season, and the fowls, having become accustomed to their new surroundings, will give better results than where purchased later and eggs set immediately after their arrival. You help both yourself and the breeder by buying early. W. S. SULLIVAN.

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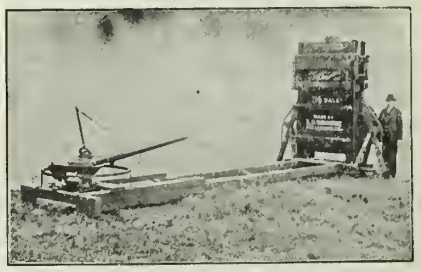
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THE BOTANIST.

A Rattlesnake Weed Story.

To the Editor:—Enclosed in separate cover I forward you a specimen of a plant known as "rattlesnake weed," said to be a certain specific for cure of the bite of the dreaded rattlesnake.

The specimen herewith enclosed was presented to me by a Spanish-American born and raised in Alameda county, and in presenting it he told me the following story, related to him in his youth by his grandfather, who was an eye-witness to what occurred. This story has been handed down from father to son through three generations as a proof of the infallible efficacy of this plant in counteracting the venum of the rattler.

The story was given me in the crude, and I shall endeavor to present it in proper dress for the delectation of your readers. Away back in the early "forties," long before Americans dreamed of the wonders of this wonderland, the principal inhabitants of this coast were Indians of a very low type. Castro and Pacheco, the contending parties for the Governorship of this, then Mexican province, had utterly failed in their attempts to civilize these aborigines, and it remained for the padres of the Missions to undertake the task. Under the influences of the priests these "Diggers" were brought to some extent under church control, but their thieving propensities were never fully overcome. While nearly all the Indians of the coast had been gathered about the Missions and were being taught lessons of industry, there were certain bands who persisted in breaking away from these peaceful reservations and indulging their craze for horse and cattle stealing. To the peaceful Mexican citizens these Indian depredations became unbearable, and they finally concluded to organize themselves into a police body and put a stop to it.

A well-known Indian named Chapuli was the leader of a noted thieving band, and one night he, at the head of his band, raided the neighborhood and got away with a number of valuable animals.

The leader of the citizens' committee was a man named Nalberno, grandfather of the man who gave this story. He called his men together and started in pursuit. After a week or ten days of hard chase they surprised Chapuli while asleep, and after a struggle captured him. The hope of securing any others of the band was abandoned and they started with their prisoner on their long journey back to the Mission. One day they made camp near a clump of oaks, and while they lay upon the ground resting there appeared in their midst a monster rattlesnake. All hands were very much frightened at the appearance of this unwelcome visitor and hurriedly cast about for some weapon with which to destroy him. In the midst of their excitement Chapuli interceded and said, "Don't kill the snake yet. Give me my liberty and I will let him bite me." They all gazed at the Indian in astonishment. "What do you mean?" they asked. "Give me my liberty and I will let him bite me," repeated the Indian. "Well!" said Nalberno, "inasmuch as you will have to hang anyway we might as well let the snake kill you. Let him bite you and you shall have your liberty," and, he added, "The world will be rid of you also."

The Indian looked at his captors for assurance, and when they severed his bonds and left his arms free he seized a rod and began tormenting the reptile until it was in a state of fury—then baring his right arm he held it close to the rattler and permitted it to strike him there several times. The horrified spectators looked on in breathless astonishment, while the Indian remained perfectly cool, save the fact that his swarthy face wore a sardonic smile as he approached his captors and held out for their inspection the wounded member. Then turning slowly aside he was observed to pluck a few leaves from a peculiar plant growing near by, and placing them in his mouth began masticating them rapidly, swallowing the juice, and presently removing the pulp applied it to the wounds made by the fangs of the serpent, and then in imitation of his liberating friend glided swiftly into the jungle and disappeared.

Two years following the events above recorded this same Indian was again captured with a band of stolen animals and suffered the penalty. Thus it came about that "rattlesnake" weed and its curative qualities were discovered.

Mt. View, July 5. A. Kamp.

The plant, of which a specimen is sent us with the above, is the same as mentioned in our issue of July 2, viz., Daucus pusillus.

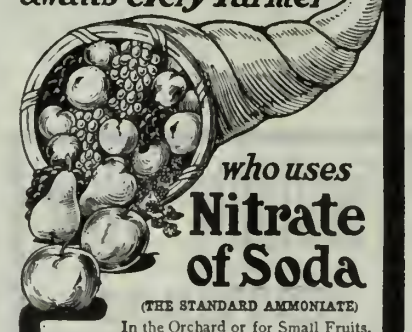
Guys for a Big Tree.

The Yosemite Park Commissioners, says the Sacramento Union, have concluded to take no chances with the pride of the Wawona mountains, the tree known as the Grizzly Giant, and they have given orders to have the tree braced up with steel cables immediately in order to prevent its falling.

Some time ago Nat Ellery, the State Highway Commissioner, made an examination of the famous tree at the request of Governor Pardee and reported that it had a decided lean, and without doubt was apt to fall unless some action were taken to prevent it. At the time he outlined a plan to save the tree by aid of steel cables, and the commissioners decided to adopt his plan and they have given orders for the preparation of the cables to be used in the work of sustaining this grand old monarch of the mountains that for upward of 4000 years has occupied the spot where it now stands.

Mr. Ellery's plan provides for two steel cables 225 feet in length and 1 inch in diameter. These will be fastened to an iron band that will encircle the Giant at a distance of 110 to 120 feet from the ground. This band will be 38 feet in circumference to go around the tree at that point. The cables will diverge, one going to the foot of a 4½-foot pine tree, where it will be fastened, and the other cable will be led to the foot of a 6-foot pine tree and be fastened in like manner. The order for these cables has already been placed and they will be put in position as soon as possible.

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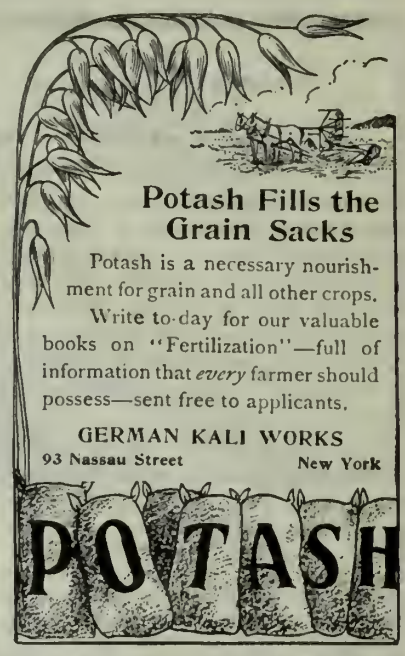
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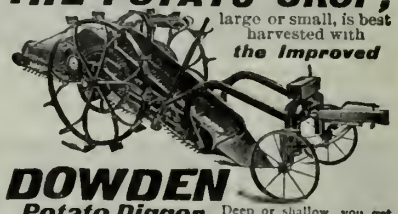
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Yerba Mate, a Substitute for Coffee and Tea.

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Yerba mate is a tea prepared from the roasted and pulverized leaves of the Ilex paraguayensis, an evergreen forest tree found in southern Brazil and the neighboring region. The leaves are found in the forests, either on isolated trees of considerable loftiness or, more rarely, on trees in small groves. Isolated specimens have been grown, and the plant can no doubt be cultivated under proper conditions It is not necessary to cultivate it here, as enough is found wild.

In Brazil it is found plentifully in Parana, Santa Catharina, and Matto-Grosso, and to a limited extent in Rio Grande. It is also found abundantly in Paraguay. It grows on the higher lands, usually from 1000 to 2000 feet above sea level and in rich alluvial or loamy leaf soils. In attempts at cultivation it is said the greatest difficulty is found in securing germination of the seeds. It is popularly believed that the seeds will germinate only when the fruit has been eaten by birds, the hard seeds being excreted, as though they underwent some chemical or other change in the bird's intestines.

Yerba mate is largely consumed in Paraguay and in the Brazilian States, where it is made. It is very extensively consumed in Argentina, in Uruguay, and to a less extent in Chile. There is a small consumption in other States of Brazil, a very small quantity is exported to Europe, and still less to the United States and Canada. Estimated exports may reach 45,000 to 57,000 tons annually, thus: From Parana (principally to the River Plate), 25,000; from Santa Catharina, 5000 to 6000; from Matto-Grosso, 5000 to 6000; from Paraguay, 10,000.

The harvesting and preparation of yerba mate is as follows: The long outer branches of the tree are cut off, and these branches are passed rapidly through the flames of a great fire. This passing through the flame wilts and toughens the leaves. A rack or loose platform of interlaced branches, about 2 feet high, is constructed. Under this a slow fire is kept burning and upon it are spread the wilted branches of the mate, tied up, sometimes in small bundles. The smoking and drying of the leaves to bring out the full aroma requires considerable skill. When the leaves are perfectly dry they are cleaned from sticks and dust and beaten or ground into powder. The coarseness or fineness of this powder varies in the different markets. The manufacture is carried on in factories established in the towns; thus there are some dozen factories in Curytiba, in the State of Parana.

Yerba mate has a peculiar bitter, smoky taste, which is usually considered unpleasant, and this has largely operated to prevent its more extensive use as a beverage. This smoky bitterness is chiefly due to the rude method employed for drying the leaves, and it seems likely that improved methods of drying the mate on iron or copper pans would give a much more delicate and agreeable product. Mate is said to have all of the best qualities of coffee and tea as a stimulating health beverage, without the disadvantages of either. It is the more gentle stimulant than either and is said to be much used in the hospitals of Paris.

The tree could probably be grown in southern California, perhaps in southern Texas; certainly in many parts of the Philippines.

The introduction and growth of this plant has long been a matter of interest in California, but to our knowledge viable seed has not been secured. The Bureau of Plant Introduction of the United States Department of Agriculture may be able to secure seeds or plants.—ED.

WANTED—SINGLE MAN OF EXPERIENCE, energy and ability, to act as foreman on large fruit ranch in S. J. valley. Must be thorough in viticulture, horticulture and general farming. Permanent place and good wages for right man. Address Box 18, care of this office.

Frog Ranching in California.

TO THE EDITOR:—In the East men and boys catch frogs for which they get a good price. That has also been done in San Francisco by some. Do you know of any cases where people have tried to raise frogs under artificial surroundings, and whether they succeeded in making it pay? What kind of ponds, food, water and so forth do frogs need, and do you think they would be a paying industry in this valley? Where may I get any information on this subject?—ENQUIRER, Ceres.

The following account of a frog ranch on the eastern shore of the bay of San Francisco was published in the PACIFIC RURAL PRESS five years ago. We have heard nothing recently of the enterprise:

It is at Stege, a little station about 20 miles from San Francisco, that a frog ranch is located, named after the first owner of the land lying roundabout. The Stege ranch extends from the bay shore up to the ridge of the Coast Range of mountains, which encloses both shores of San Francisco bay. In the lower portions of the ranch a great number of springs gush out of the soil in copious volumes. It was the springs that determined the first location of the ranch. The site, overlooking an expansive view of the beautiful bay, was capable of vast improvement. A dozen acres, enclosing the springs, were surrounded with a hedge of cypress. The grounds were laid out with taste and soon presented the rare beauty incident to the profuse vegetation of a semi-tropical climate. Three ponds were formed by confining the waters of the flowing springs, some acres in extent, and stocked with frogs. A fence high enough to prevent the escape of the inmates surrounded each, and the ponds were filled with aquatic plants and mosses. Then hundreds of frogs were placed in the ponds, and from the original stock the increase has been so great that, though thousands are sent to market yearly, the withdrawals have no sensible effect upon the vast numbers remaining. Frog ranching is not unlike cattle raising. There are one, two, three or four-year-olds, though the successful frog raiser will always keep the young ones separate and apart from the full grown, which are cannibals of the first rank, and eat all which are not able to protect themselves. The four-year-olds are considered ripe for the market, though the gourmand in frogs prefers those that are a year or two younger. A frog's life is twelve years. There are some of that age at Stege. They are of monstrous growth, being 14 inches in length and weighing as much as four pounds.

In California, as in colder climates, frogs hibernate in winter, and in the spring emerge after their long sleep emaciated to the last degree. Then they are fed with a mixture of oatmeal and blood, and again at the spawning season, but only for a short time. They are, most of the time, self-sustaining, feeding upon the insects which they cleverly catch.

Like most creatures of the animal world they are capable of affection for their keeper, and demonstrate it by coming at call and allowing themselves to be handled, showing much delight in being stroked. Placed upon the ground they readily follow their mistress for a long distance. At night the noise made by the 10,000 frogs which, it is estimated, are contained in the three ponds, is tremendous.

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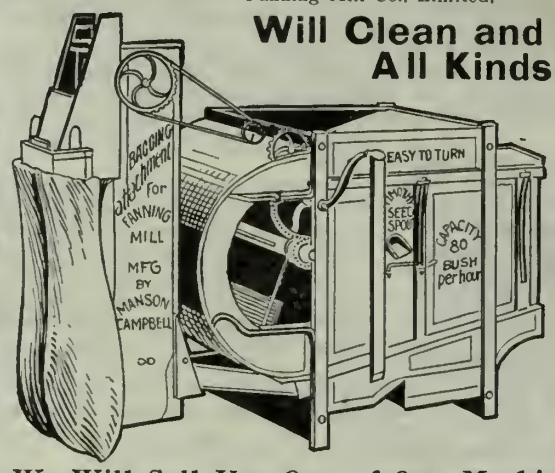
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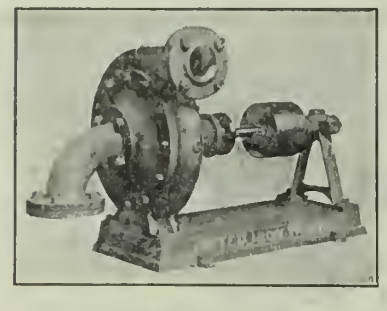
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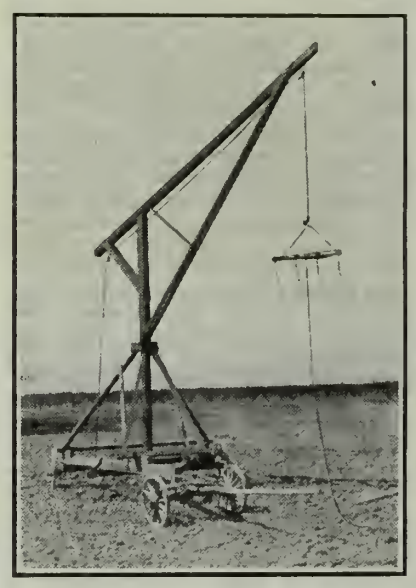
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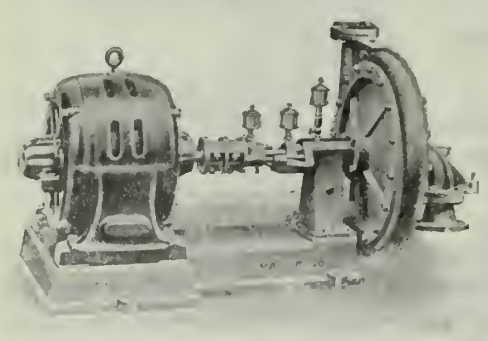
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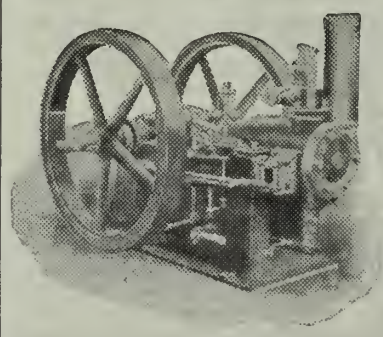


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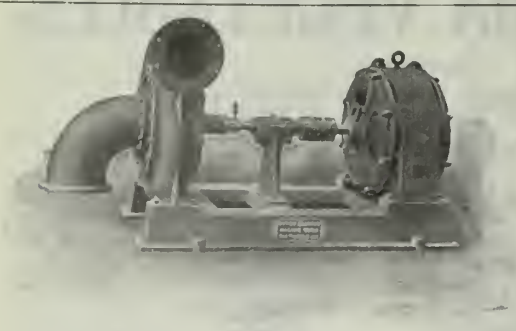
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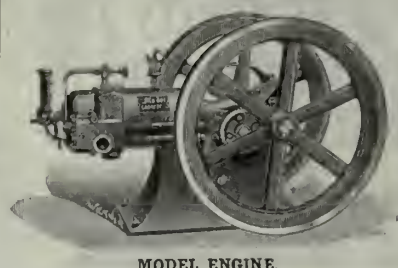
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Mountain Musings.

It is still the season for mountain top recreation and endeavor, and we turn again to the Sierra Nevada and continue comment on the line of highway construction. The two pictures on this page are drawn from the collection of the State Highway Commissioner—Mr. N. Ellery of Sacramento—and are suggestive of State enterprise. To show that the State is actually doing things where it could profitably do much more, we show a camp of State road surveyors, at an elevation of above 10,000 feet in the higher Sierra. The location is in the tamarack and pine timber near Mt. Parker. The character of the ground is as usually encountered in timbered localities in this part of the State, filled with granite boulders and scattering solid ledges of rock. In the construction of a road through timber of this kind the removal of the stumps is a material item of expense.

But this is an easy affair compared with the roadwork suggested by the second picture. The ruggedness of these mountains for road location is readily seen. It requires engineering skill of no small amount to properly get highways through the passes and it requires a heavy expenditure for constructive work.



Camp C. F. Curry, Tioga Survey, Sierra Nevada Mountains, Elevation 10,318 Feet.

These pictures are suggestive of the duty of the State in opening highways when the expense would be too great for the counties traversed to undertake. And yet such roads should be provided. A vast amount of business that should be transacted with the commercial centers of our State is diverted to our northern and eastern neighbors, simply on account of the lack of requisite means of communication. The remedy for such a condition of affairs cannot be expected of a county which will receive no direct benefit and which, as is generally the case, has scarcely sufficient funds for affairs of local and urgent necessity. The entire State is either directly or indirectly interested, and the benefits that would accrue would be not of avail simply for a particular county, but would aid in advancing the commercial interests of the entire State.

Numerous examples might be given of such a condition of affairs. A road over the Tejon Pass, at the southern end of the great valley of California, would connect this important section of the State directly with the growing interests south of Tehachapi. Its length would be about 70 or 80 miles, and its construction costly. Owing to the lack of population in those portions of Kern and Los Angeles counties directly brought in contact with the highway proposed, this advantageous improvement cannot be inaugurated. The necessity for such a measure as proposed again impresses itself when it is found that, after traveling, north of the latitude of Ukiah on the western side of the Coast Range, and that of Colusa on the eastern side, there is absolutely no road upon which to cross from one side to the other until the traveler reaches Grants Pass in Oregon, a distance of 225 miles. A highway connecting Red Bluff, at the northern end of the great valley and the head of navigation of the Sacramento river, with Eureka, Humboldt county, would result in immense advantages to two important sections of the State. But even assuming that the counties through which such a highway must pass were to act jointly, it would be found that, while Tehama might be able to afford to build that portion of the highway within her confines, and Humboldt that within her county, the sparsity of population and consequent lack of funds of the intervening county of Trinity would prevent the completion of the highway. A similar state of affairs is presented after the necessity of another highway in a northeasterly direction from Red Bluff is made evident. Again, the great advantages that would follow the construction of a highway from some point at the southern end of the great valley of California to tidewater, as from Bakersfield to Port Harford, are clear, but the sparsity of population in Kern and San Luis Obispo counties and the inevitably consequent lack of funds render it impossible without some form of aid from an external source.



Sardine Lake and Mount Parker, From Mount Gibbs, on Line of Extension of Tioga Road.

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E. J. WICKSON.....Horticultural Editor

SAN FRANCISCO, JULY 30, 1904.

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The Week.

Politics are not becoming very warm yet, but the anticipation of heat is in the air. The two great parties have made their nominations and the four candidates are now diligently thinking what they can put in their letters of acceptance to make their opponents most trouble and yield their supporters most strength. It is one of the humors of the campaign that one of the secondary candidates took to himself a new wife as soon as he learned of his success in the convention, and to him belongs the first plaudits of victory. He will get his joy or his chagrin doubled, as the case may be, and no mistake. Soon, however, the political decks will be cleared and the contest of the autumn vigorously begun. It promises to be a campaign of much interest, and with war abroad and an election at home the American people ought to be able to worry through the ennui of continued prosperity fairly well.

Wheat is oooming. Futures here have risen, following Chicago, and spot wheat has advanced 50c per ton. There is, however, little doing, for neither charter nor clearance are recorded for the week. Spot barley is firm; not much is doing in futures. Oats are unchanged and a good demand for choice. New rye is in and selling fairly. Pink beans are higher and Limas firm, the rest of the list being steady. Bran and middlings are heavy and promise to be lower, as offers to arrive are below spot figures. Hay is weak, with free arrivals and a slow demand. Beef and mutton are unchanged and easy for common grades; hogs are higher for medium and large; small hogs are in excess and weak. Butter is unchanged, with an easy tone, but still hopeful of better things. Cheese is steady, with a fair demand. Eggs are the same; fancy go well, but common are depressed by large Eastern supplies. Poultry is in better shape, with lighter receipts and demand improving. Potatoes are weak and lower, with some accumulation of receipts. Red onions are out and yellow are in better supply and easier. Choice apricots and fancy peaches are selling well, but common lots are slow. Berries are doing better. Oranges are unchanged with light demand; lemons are steady, with a moderate movement. Dried fruit of most kinds is steady, the trade being chiefly in futures. Prunes are still being talked down. Raisins are unsettled, owing to packers' offers at a decline. Almonds are very strong; Armsbys have bought the Sutter county offering and are strong bulls, naturally, to help the Davisville stock. No quotation for walnuts is to be had yet. White honey is firm with amber dragging. Hops are mixed; conflicting issues are given elsewhere. Wool is strong; the main thing is to get wool; price is a secondary consideration.

We alluded last week to the coming meeting of grape growers in this city. Let all interested attend to it. The meeting is called by the California Viticultural Club, which was organized last March in San Francisco for the purpose of "promoting good fellowship between the members and forwarding in all possible ways viticultural interests." The meetings will be held at the Mechanics' Library, 12 Post street, San Francisco, the first and second days of August, opening at 10 A. M. of the first day. Many prominent viticulturists and œnologists have promised their support for the occasion; many practical men will give the result of their experience on questions important to the viticultural industry. The papers will be short, so as to have lengthy discussion of each one of them. All those interested in viticulture or the viticultural industries are invited.

There is to be a movement at the next Legislature to place the whole milk trade of California under State supervision. At a recent meeting of the State Board of Health a communication was received from the Trustees of Mill Valley in Marin county requesting the Board to institute legislative action looking to the placing of all the dairies in the State under the control of the State Board of Health, so as to insure a wholesome milk supply and to insure that no animals afflicted with tuberculosis be kept among the dairy stock. The communication was favorably considered by the members of the Board and it was agreed that some such bill should be drafted for presentation to the coming Legislature, the bill to be conservative in its requirements so as to meet with as little antagonism on the part of the dairymen as possible. It would surely be better to have the whole industry under some rational regulation than to have the frantic efforts at so-called regulation which are taken up in the different municipalities and made to serve political ends largely.

Fruit shipments are moving eastward freely, and the current shipments are greater than for the same days last year. But this can not continue through the mid-season fruits, because the local demand is too sharp and the available amounts too small. The promising grape crop must do much to help out the season's total in fresh fruits. Pears are doing considerable in that line and the apples will also help. Sixty-two carloads of California fruits were sold on a single day last week in Eastern cities. The distribution is interesting: Boston 11, Chicago 18, New York 19, Minneapolis 4, Philadelphia 3, Pittsburg 3 and St. Louis 1. The Far East takes more than half the shipments, and yet it was held at one time that New York could never take more than could be reshipped by express from Chicago!

There is much agitation going on about the forthcoming of $5000 which is needed to meet the cost of the land which Chico offered to the U. S. Department of Agriculture as the site for a station for the propagation of plants for subsequent distribution. The whole thing is unpleasant and should be put out of sight as soon as possible. That Chico should have offered the site without means of paying for it is bad, and that having made the offer and labored for its acceptance, which was realized, it should be unsafe now to close the question with the cash is worse still. But we are wondering about more things than those. Was it wise or dignified for the United States to enter the State of California, seeking a gift of land from individual owners? A joint establishment, the cost of the land to be appropriated by the State of California, and the establishment and maintenance by the United States, might have been a good sort of co-operation, dignified in its method and cordial in its spirit, but to deal with a community through the urgency of individuals whom the community did not authorize to act for it, is always to invoke the repudiation resulting from lack of community interest, as seems to be the state of affairs at Chico. However, there is only one thing to do and that is to put up the money and close the talk which is engendering much ill feeling. The Sacramento Development Association is bravely endeavoring to do this, and its effort should widely commend itself. The institution itself is beyond question of great importance to the State, and its possession will be of great advantage to the Sacramento valley. Let the Sacramento valley earn the gratitude of the State by wiping out the hateful shortage of funds.

Some new Angoras from South Africa will stop to capture some prizes at St. Louis on their way to California. C. P. Bailey & Sons Co. of San Jose have secured permission to land South African goats in the United States and they now report that they will have twenty head of as fine animals as can be secured in that country.

QUERIES AND REPLIES.

Storage for Apples.

To the Editor:—I have come to the conclusion that we need some kind of a storehouse where the winter apples, after being picked, can be sold in small quantities, instead of selling at picking time entirely to one firm. The soil here is disintegrated granite, and there are several small hills near the house which can be pierced by a tunnel at each end and a chamber built in the middle; also, each entrance could be preceded by adobe. Would this idea be practical, or have you any better idea for keeping apples where there is no chance to get ice? The altitude here is 4000 feet and the temperature has sometimes gone down to 11° above, and the entire winter is rather chilly for this part of the country. Also, some of our trees are affected on the leaves with something that has baffled us. I enclose some specimens. The winds have not been warm enough this year to cause this decay. It appeared in June. The ground around some of the trees lacks moisture, and generally there is a little block just under some trees where the cultivator has been unable to reach, but some trees within this block have no affected leaves.—Grower, Manzana.

The main difficulty in keeping apples in good condition in California during the dry months of the autumn is the loss of moisture from the fruit by evaporation. This causes shrivelling and operates against long keeping. Where apples are stored in warehouses, floor sprinkling and other means of increasing the moisture in the atmosphere is often desirable, unless the situation be immediately upon the coast, where the air is naturally more moist. You could probably reach very good results with the subterranean storage house which you describe. It would furnish a uniformly cool temperature and would make it easy to regulate the moisture, although in such an excavation you would, of course, have to look out for providing facilities for ventilation in case the air should become too moist. This could be easily accomplished by boring a ventilating flue from above to connect with the cellar, with an opening and closing device in it. There are one or two instances in the State where such arrangements have proved satisfactory.

Undoubtedly the failure of the leaves which you send is due to the lack of moisture in the soil. The dying back from the edges and the peculiar color and texture of the dying parts is characteristic of that trouble. The fact that some trees are affected and some not would indicate either a variation in the moisture of different spots or a difference in the individual vigor of the tree, for trees seem to have an individuality in this respect quite as marked as in animals.

Defective Soil Conditions.

To the Editor:—I have some peach trees set out last spring that are diseased. I send some of the twigs and some of the insects that I find on them at the present time, which is a brown speckled bug about ¼ inch long. Sometimes you can find six or eight in a bunch under a web. A neighbor has an orchard four years old that he contemplates digging up next spring. Some of them appear in perfect health, but they don't bloom. In the spring, when they start to grow, the ends of the limbs are two or three weeks later than the rest of the tree. In driving along the road you can see trees affected the same way in nearly every orchard. It is different from the work of the red spider.—Reader, Tulare county.

The insects which you find collected on twigs of diseased peach trees are notoxus beetles. They collect in the way you find them, either for protection or for social purposes, and do not injure fruits to an appreciable extent, nor have they been discovered working upon the foliage. The trouble with the peach tree, judging from the extreme slimness of the twig and smallness of the leaf, is due to a difficulty in the soil—either the water stands too near the sur-

face, or there is alkali present, or some other adverse condition which no application to the tree itself would correct. This is also borne out by what you say of the dying back, or the slow starting of the upper branches. There seems to be good reason to conclude that trees which manifest such weak growth as your specimens show are not at all likely to prove satisfactory and profitable. We have had other similar specimens from your neighborhood, the trouble in that case being due to water standing near the surface of the ground. Digging a few holes at the time of the year when the water is most likely to collect and stand would show whether this is the trouble in the specific case you have in mind or not. The peach tree does not endure standing water, even in the winter time.

Figs Near the Coast.

To the Editor:—What is the cause for failure of first crop of figs to ripen on my trees growing near Palo Alto? The varieties are such as usually produce in many parts of the State at least a limited first crop, although not as heavy as the first crop usually borne by the California or Mission trees. The varieties include White and Brown Ischia, Brown Turkey, Black San Pedro, Dauphine and White Marseilles. These trees are young, but bore this year and last limited quantities of first crops, which apparently were vigorous and healthy, but in July when the figs were almost full grown and in some cases when they had commenced to color, they all fell off the branches, the flesh and pulp having but little indication of reaching maturity. These same trees last year produced a heavy second crop, and in the case of the Ischias they have produced a heavy second crop for years all of which ripen well except those cut off by frosts. The failure cannot be due to a lack of caprification; otherwise the second crop would not mature. Moreover, it is well known that these varieties do not require caprification. It occurred to me at first that last year's wood on which the first crop is produced had not ripened properly, or that it had been injured by frosts, but if this were true the figs would hardly have grown almost to their full size. Can you suggest a reason for these failures?—A Subscriber, Palo Alto.

We have to answer on the basis of conjecture, as we are not aware of demonstration. We are familiar with the behavior described and attribute it to the prevailing low temperature just at the time that higher heat is required for the changes involved in ripening. July and August are low temperature months, and such sunshine as we get loses its edge by the amount of aqueous vapor through which it has to pass. September brings not only a higher temperature, but a clearer air, and the fig finds heat enough for its full development, and this continues, except during early fall rains, until frosts cut off the stragglers as you describe. The fig near the coast in the upper part of the State is, however, always near the line between sufficient and too little heat.

Dieback in the Foothills.

To the Editor:—About a year ago I reported to you that many fruit trees were at that time dying back one limb at a time, the tree otherwise looking healthy. The same condition prevails at the present time, at Nevada City and Grass Valley more generally. All kinds of fruit trees, and even hawthorne trees, are affected. Cannot one of your experts visit the locality, or can we send specimens of affected limbs by express?—B. S., Smartsville.

It seems to us almost beyond doubt that these trees are either dying back from insufficient moisture during the latter part of the summer or they die back from frost in the early spring after the sap has started and before growth appears. Both causes may be in action. They can, however, be distinguished by examination of the trees at different times. If the upper branches are found to be dead or dying in the fall or early winter the cause is a dry subsoil the previous summer; if the buds swell and do not open properly and the limb dies back in the spring or early summer, the cause is winter soaking in water or the effect of frost upon the upper part of the tree. If our correspondent will think these suggestions over and study the trees at the seasons indicated he will solve the problems for himself. Digging now to dry subsoil or shallow bedrock will also answer the question for any tree which is trying to grow over it.

Lemon Growing.

To the Editor:—1. What are the chief centers of lemon raising in this country? 2. How large is the total annual production? 3. How much of them are exported? 4. What percentage of them is used industrially and to what purposes?—C. H., Paterson, N. J.

There are no commercial lemons produced in the United States except those grown in California. The chief lemon producing district in California lies just south of the city of San Diego, although there are also large orchards in Ventura and Santa Barbara counties on the coast and at several points in the interior of southern California. There is also a certain acreage in Tulare county, and some attention is given to the fruit all through the foothill district of central California. The lemon product shipped from California to other States amounts to about 2000 carloads per year. There is a considerable surplus product of lemons which cannot be profitably shipped, either because they may be slightly disfigured or because the price is too low at the time when they are ready. A very small fraction of this waste product is utilized in the manufacture of citric acid, there being a factory for that purpose at Chula Vista, a little south of San Diego. A small amount of lemon oil is also produced for the manufacture of essences.

Tea, Cocoa and Vanilla.

To the Editor:—How does the tea plant do in California, and what cultivation and climate are required for cocoa and vanilla?—L. B., Folsom.

The tea plant grows readily with proper cultivation in the foothills of California. It needs about the same treatment that you would give to fruit trees to insure satisfactory growth. Tea plants have been grown in the foothills for the last forty years, but have never succeeded commercially because of the cost of hand picking of the leaves which is required. Cocoa and vanilla are both tropical plants, neither of which will succeed anywhere in California.

Another Tea Grower.

To the Editor:—Can you give me any particulars as to the requirements of the tea plant? Has it been tried with success in this part of the State, and how is it propagated?—"Ignorant," Healdsburg.

We have spoken of the growth of the tea plant in the foothills in answer to another correspondent. It will also grow near the coast. It is not a tender plant. It grows in China and Japan, which have a more wintry climate than California. It also grows in South Carolina, and some tea is being made there. We have no help here which is cheap enough to pick leaves and manipulate tea. The plant is readily grown from fresh seed, which is large and hardy, but there is so little call for tea seed that local supplies are apt to be kept too long. A fresh lot of seed should be imported unless the dealers can assure you of the recent importation of their offering.

Clovers and Alkali.

To the Editor:—Would it be advisable to try red, white, crimson or other clovers on salt grass land? Foxtail grows on it, and why not the clovers?—Inquirer, Traver.

Foxtail grows on some salt grass land—first, because it seems to be quite resistant to alkali; second, because it makes its growth in the winter, when the alkali is washed down into the lower part of the soil by the rain. You cannot get clovers to start because they are more subject to injury by alkali and because they will not grow well during the winter, but like to start in the spring, as the warmth increases, and are cut off soon after by the concentration of alkali at the surface of the ground as the moisture evaporates. Alfalfa is the clover which seems to stand a certain amount of alkali better than other clovers because it has a very thick, fleshy root, which resists alkali if it is possible for the plant to get a start before the alkali rises too thickly around it. If your land will not take alfalfa, you need not expect success with any clover you mention.

Prevention of Scab in Potatoes.

To the Editor:—What do you recommend as a preventive for scab in potatoes?—Reader, El Monte.

There are two quite effective treatments to prevent scab in potatoes and both are to be applied to the seed before planting; one is corrosive sublimate. Dissolve one ounce in eight gallons of water and soak the seed potatoes in this solution for one and one-half hours before cutting. This treatment kills the scab spores which may be upon the exterior of the potatoes. More recently, however, to avoid danger in handling such a rank poison as corrosive sublimate, formalin has been used, and one pint of commercial formalin, as it is bought in the stores, is diluted with thirty gallons of water and potatoes are soaked in this for two hours. Thirty gallons of this dip ought to treat about fifty bushels of potatoes.

WEATHER AND CROPS.

Report of the U. S. Weather Service for Week Ending July 25, 1904.

Alexander McAdie, Forecast Official and Section Director.

Sacramento Valley.

Warm weather and light winds prevailed during the week. Grain harvesting and thrashing progressed rapidly and harvesting is completed in some places. The grain crop is the lightest for several years and the quality below standard. Hay has yielded a large crop, excellent in quality; haling and storing are in progress. The hot weather has been beneficial to hops, which are now in first-class condition and give promise of a large yield. Grapes are making rapid progress and prospects are good for an unusually heavy crop; the heat has caused no material damage. Late Bartlett pears in Nevada county are reported almost a failure, hut there is a very good crop in the valley districts, and large shipments are heing made. Prunes are light in some sections and fair in others. Peaches, apples and apricots are light in all sections. Figs and oranges are developing satisfactorily and large crops are expected.

Coast and Bay Sections.

The weather was considerahly warmer than during the preceding week and heneficial to all crops. Light rain fell in the central and northern sections, but caused no damage. Grain harvesting and hay haling are progressing. There is a fair crop of wheat, oats and harley in most places, and a heavy crop of hay in nearly all sections. Corn, hops and heans are making rapid growth and will yield ahout the average crops. Grapes were improved by the warm weather and are advancing rapidly, with indications of a large yield. The deciduous fruit crop is generally disappointing, though fair crops of pears, plums, prunes, apricots and peaches are heing gathered in some sections. Figs are ripening rapidly. Cloverdale oranges are in good condition. Almonds and walnuts give promise of large crops.

San Joaquin Valley.

Clear and cool weather prevailed during the first part of the week and partly cloudy, sultry weather the latter. Harvesting and thrashing grain continue in all districts. The hay crop is about all cut and haling continues; the crop is a good average. The deciduous fruit crop is ripening rapidly and dryers and canneries are in full operation. In Tulare the crop is very heavy. Large shipments of peaches, Bartlett pears and plums are heing made to local and Eastern markets. Watermelons are plentiful and are being shipped freely. The prune crop is good. Grapes are making good progress and a large crop will he harvested. Some early table grapes are heing marketed. The first of the crop of new peaches is going to the packing houses. Citrus fruits are making good progress and a large orange crop will he harvested in the Porterville section. Water is getting low. Stock are in good condition and healthy.

Southern California.

Weather conditions during the week were nearly normal and generally favorahle for crops. Grain thrashing continues; the crop in some places is reported fair and in others almost a failure. Beans are hlossoming and look thrifty. Sugar heets at Santa Maria are yielding a large crop, excellent in quality. Apricots are light and of small size. Walnuts look well in orchards where water is plentiful and will probahly yield nearly an average crop. Melons are small, but of good quality. Grapes are in excellent condition and give indications of the largest crop for several years. Citrus fruits are doing well, though there are reports of a light yield of Navel oranges.

Eureka Summary.—Haying is progressing rapidly; the yield is large and quality excellent. All crops made good growth. Cherries were damaged by rain and there are comparatively few on the market. Very warm in the interior.

Los Angeles Summary.—On account of light winter rains there has heen an unusual demand for irrigating water. The supply is holding up pretty well in some places and getting scant in others. Peach drying continues.

Rainfall and Temperature.

The following data for the week ending 5 A. M. Wednesday, July 27, 1904, are from official sources and are furnished hy the United States Weather Bureau for the Pacific Rural Press:

California Stations.	Total Rainfall for the Week	Total Seasonal Rainfall to Date	Total Seasonal Rainfall Last Year to Same Date	Average Seasonal Rainfall to Date	Maximum Temperature for the week	Minimum Temperature for the week
Eureka	T	1.19	.06	.09	62	50
Red Bluff	.00	0.10	.00	.02	108	68
Sacramento	T	T	.00	T	98	56
San Francisco	T	.02	.00	.02	66	50
Fresno	.00	.00	.00	T	108	68
Independence	T	T	.00	.06	96	68
San Luis Obispo	T	T	.00	T	88	52
Los Angeles	.00	00	.00	.02	86	60
San Diego	.00	.00	.00	.04	74	64
Yuma	.05	.05	.04	.14	104	76

THE POULTRY YARD.

Some Turkey Troubles.

From Farmers' Bulletin No. 200 of the United States Department of Agriculture, by T. F. McGrew.

No kind of young poultry is so susceptible to the effects of unfavorable conditions as young turkeys. They must be carefully protected from attacks of parasites and from excessive heat and dampness until they have gained sufficient strength and size to wander away with the parent turkeys and care for themselves upon the range.

Insect Parasites.—The chief danger from lice and mite attacks to the poults is directly after the poults are hatched; but the best remedy is to deal with the hen before the young are hatched. The plumage of the hen should be dusted with insect powder close down to the skin from head to hock joint, being careful not to get it into the eyes. This should be done at least twice a week until within two or three days before hatching. The most careful attention should be given to this. Never use lime or sulphur for this purpose. Nothing is better than Persian insect powder, but any good insect powder will answer the purpose if it does not contain ingredients that are injurious to the eyes.

It may often occur, however, that the hen will not have been properly treated, and so lice and mites will be found on the young; and, in order that the poults may live and thrive, they must be freed of these enemies. As soon as the young are ready to leave the nest they must be examined carefully for lice, which may be on top of the head, under the throat, or about the wings or vent. Some of them are gray in color and difficult to see. They may be destroyed by the use of sweet oil, rubbing a very small amount upon the head and throat; insect powder is sufficient for the other parts of the body. It is very important that only a small amount of the sweet oil be used, as too much is injurious. Kerosene should never be used to destroy parasites.

Gapes.—After external parasites, the most destructive ailment of young turkeys is the gapes.

Cause of the trouble.—This comes from certain small worms that are picked up by the young turkeys in places that have become infested with them. Some believe that the angleworm is the cause of the spreading of gapes, and it probably is one of the causes. It is possible for the angleworm or other worms to be infested by gapeworms, and thus, when eaten, to cause the gapes in young chickens and turkeys. Whenever the ground is infested with the gapeworm eggs they may readily infest all the angleworms in the same soil, and the eating of these may cause the infestation of the young poults.

Treatment.—Many remedies are recommended for this ailment, few of which have ever proven of much advantage. A feather or a twisted horse hair may be introduced into the windpipe for the removal of the gapeworms. Some recommend the feeding of finely chopped garlic and turpentine in the mash, while others suggest the mixing of a teaspoonful of naphtha or benzine in enough mixed food for a dozen poults. The theory of the use of these remedies is that the fumes from the turpentine or the benzine will pass through the entire body and into the windpipe and destroy the gapeworm.

These remedies are known to have destroyed as well as to have cured, and great precaution must be observed in their administration; try them on a few at a time and do not risk the destruction of the whole flock. Another remedy is to place the ailing chicks in a box over which has been stretched some cheese cloth; take some very dry airslaked lime and sift it down onto the poults or chicks through the cheese cloth; this fine dust will penetrate the nostrils and throat and cause a violent coughing and sneezing, which tends to dislodge the gapeworms and give relief. It is, however, a dangerous remedy which should be cautiously used rather as an experiment than as an absolute cure.

Prevention.—No saying could be more truly applied to this ailment than "a pound of prevention is worth a ton of cure," and cleanliness is the only sure preventive of gapes. Where the ground has become infested, a very thin coating of slaked lime should be scattered all over it early in the spring before the frost is out of the ground and allowed to lie there until the frost disappears, leaving the ground almost dry; then take a hoe and scrape off all the lime and one-half inch of the soil, cart it away and bury it at least 4 feet under ground.

Another plan is to sprinkle the soil with water into which has been mixed some sulphuric acid; after twenty-four hours cover the surface with lime and turn the soil under with a plow. A surer and better way than this is to remove your poultry plant to an entirely new part of the farm where there is no danger of infestation, then spread a coating of lime over the infested land and plow it under and cultivate it for a year or two.

Examinations made by opening the windpipes of dressed turkeys during the winter have frequently revealed the presence of two, three or four gapeworms attached to the lining membrane of the windpipe; thus is shown the possibility of carrying the infection over in grown birds, which must likewise be provided against. The grown turkey might be carefully subject to the lime-dust treatment as above, to produce coughing or sneezing; and some of the mucus may be taken from the throat with a fine platinum loop and examined under the microscope for worm eggs. Those showing evidence of the presence of the worms should be kept isolated and treated until they are known to be free of the worms.

Blackhead.—In many localities turkey growing has become almost extinct as the result of the scourge known as blackhead. The disease was first noticed in New England, but quickly spread throughout the entire country.

Nature of the disease.—It first attacks the cecum—the blind gut situated between the large and small intestimes. It also attacks the liver, this organ becoming very much enlarged, often to twice its normal size, and showing over its surface discolored spots varying from one-eighth to two-thirds of an inch in diameter, shading in color from whitish lemon to dark yellow.

While this disease is attributed to microbes, it is thought to be very much aggravated or increased through inbreeding. In other words, many attribute the prevalence of what is known as blackhead to the depleted vitality of the stock of breeding turkeys making it possible for the germs to grow and gain destructive foothold.

Symptoms.—Diarrhea is the most marked and constant symptom, and may be expected sooner or later in the course of the disease; it results from inflammation and internal weakness. A peculiar discoloration of the head occurs when the disease is at its height, which has led to the popular designation of blackhead. This disease attacks very young turkeys and often lasts for several months before causing death. The fact that the propagation of this affection is more active during mid-summer has led to the belief that it is exclusively a summer disease.

Treatment.—The use of medicine has not proven very successful. Among the remedies most recommended are sulphur, sulphate of iron, quinine, and salicylic acid. Sulphur may be given, five to ten grains being combined with one grain of sulphate of iron; or sulphur, ten grains, sulphate of iron, one grain, and sulphate of quinine, one grain. It is necessary that such treatment be repeated two or three times a day and continued for considerable time to obtain results.

Some people who have had experience with this ailment in recent years believe that it results largely from inbreeding, the infection being transmitted from one flock to another by affected birds or eggs. The remedies applied proving of little benefit, the only alternative is the introduction of new, strong, and healthy stock. Some have gone so far as to destroy their entire flocks, and after having thoroughly disinfected the premises, started with new, healthy stock, while others have introduced wild blood into their flocks.

In all bowel troubles in turkeys, feeding boiled rice has proven of benefit, and it has been largely practiced by experienced growers. Many feed the boiled rice to the young poults to prevent the coming of the destructive diarrhea. The most successful way to obviate a dangerous looseness of the bowels is to avoid feeding wet or sloppy food and guard the young from taking cold. The feeding of small particles of charcoal is beneficial to the young from the fact that it sweetens the crop and gizzard and prevents fermentation, which is very injurious and destructive. Above all things, never make use of infected turkeys for breeding stock.

Tapeworm.—Tapeworm and worms of all kinds are very injurious to turkeys.

Symptoms.—The presence of the tapeworm may be recognized through the indolent, drowsy spirits of those infested with it; a careful examination of the voidings will also reveal its presence, as those infested will pass small portions of the worm.

Treatment.—Powdered male fern is an effective remedy, and may be administered in doses of from thirty grains to one dram of the powder; or of the liquid extract, fifteen to thirty drops. This should be administered morning and evening before feeding, the minimum dose to the younger, increasing the dose as they grow older. Oil of turpentine is an excellent remedy against worms of all kinds which inhabit the digestive organs of poultry. A common remedy made use of by some for the removal of worms from fowls is one drop of kerosene oil night and morning. This should not be administered to the very young, but may be used with impunity after they are a few weeks old.

Diarrhea.—Looseness of the bowels or diarrhea is quite too often mistaken for cholera; but such looseness may come from any of several causes, such as bad feeding, dampness, filth, or infestation with lice. The removal of the cause is the very best cure. Feeding boiled rice and a little charcoal, as already stated, will prove of great benefit. The remedy most often used is a mixture of equal parts of ground ginger, cinnamon, cloves, and cayenne pepper. This is mixed into the mash food, about a stroked teaspoonful to a dozen very young poults. Double the amount after they are four or five weeks old. What is known as Sun cholera mixture is very beneficial, either when mixed in the drinking water or the mash food. This may be given so that each would have from five to twenty drops at a time, according to age.

Cholera.—Cholera, when present in its true form, is a most uncompromising disease. The only thing that can be done to save a flock of turkeys attacked with true cholera is to remove the ailing ones immediately and destroy them. Transfer those not attacked to some other part of the farm and thoroughly disinfect and clean up the locality where they have been, feeding nothing but a slight grain diet for a short time. Medical treatment has been of very little service in this ailment. The drugs that have been used are sulphur, copperas, capsicum, alcohol and resin, either administered separately, or equal parts thoroughly mixed together and administered in the mash food.

Diarrhea and blackhead are often mistaken for cholera. It it is always remembered that the carcass, no matter from what cause the fowl may have died, should be either burned up or buried at least 4 feet underground, no infection to other fowls is likely to result. No other known cause of the spreading of the disease equals the permitting of dead bodies of infected fowls to lie about.

Turkeys, like poultry of all other kinds, are subject to the other diseases and ailments which affect fowls, most of which may be prevented or avoided if proper care and attention are given to the sanitary conditions and to the proper feeding of the stock.

SHEEP AND WOOL.

Angora Goats in Sonoma County.

A writer for the American Shepherd's Bulletin, who has a turn for the goat industry, has been looking up some of the manifestations thereof in California and gathers statements which will be interesting to California readers:

At one of the ranches, 6 or 7 miles out of Healdsburg, we found the proprietor, Mr. Sol. Walters, although he resides in town, and has also a stock ranch and range in the mountains 14 miles beyond Skagg's Springs, or 28 miles northwest of Healdsburg. Mr. Walters has been interested in goats for the past eight years, and few have more carefully than he studied the nature and needs of the animals, or how to so rear the creature that its own comfort may be considered and it may be most serviceable in various ways to its proprietor.

While those in Sonoma county who still continue to run this class of stock are giving due attention to the production of mohair and meat and are in the main operating remuneratively, yet it was mainly as brush destroyers that those who have staid longest with goats, first brought the creatures in here.

As Land Clearers.—"Few would keep goats in this section," said Mr. Walters, "but for clearing land. They do this effectively. Turn them out in the foothills where you want to get rid of the brush. They will make clean work of it. Take manzanita, for instance; cut one down, 10,000 come up. But goats destroy it root and branch. They will destroy the stumps in two years.

"Yet a goat will not live in winter without grass; and many have an idea that they will do better for the balance of the year if grass is part of their food. In April they are on browse and grass.

"I started with thirty-five A No. 1 nannies, and procured a reputedly thoroughbred billy. I also bought a bunch of common goats. Have been breeding them up till I have a good standard, get a good quality of mohair, have changed stock considerably, have culled out a good deal. Yet some three-quarter bloods which I have are fine shearers.

"The middle of April," said he, "is early enough. The does are kept close in this period and a comfortable place is provided for the kids."

Wethers are kept not over two years; at that age they usually sell for $3 per head. "Picked" bids (does) bring $2.75 and $3 (hair off).

The average clip of this gentleman's herd is about three and one-half pounds per head year's growth, although he has goats which will shear five and six pounds.

He has during three years past annually shipped to New York. The "hair" for that time has averaged 30 cents per pound.

Of course in the high hills beyond Skaggs Springs "varmints" are a source of much discomfort, and "yet," remarks our friend, "a coyote to do anything with a goat must first get him on the run; otherwise if the goat gets backed up he will 'best' the varmint."

"The question was raised by some one east of the Rockies, some one in Iowa, if I remember rightly, who was interested in Angoras, whether all goats annually shed their hair. The query came to me, though of how the querist knew of my existence I am ignorant. I replied that I had seen two goats that I was satisfied did not 'shed' during the year."

"Another question propounded to me and, I believe, emanating from the same source, was substantially this: 'Have you ever had any hornless goats?' I was able to respond that a few years ago I bought twenty-five goats of Mr. ——, near Cloverdale, among

which were three muleys. These carried a short staple mohair, but it was fine and of excellent quality."

On an adjoining ranch I found Mr. J. C. Hobson. In the evening, when the chores were done, this gentleman (he is a young man, square, yet well knit, and "well in hand"), thus discoursed:

"Goats, on the whole, are more profitable than sheep. They are freer from disease, are more intelligent, are less care, one man can handle hundreds of head more easily than a tenth of the same number of sheep. The same range will keep many more nannies than ewes. The average age of a goat is much greater than that of a sheep. While the clip of the average doe is by weight much less than that of a ewe, the comparative price of mohair and wool makes the annual product of the doe considerably more valuable. Speaking of diseases of animals," Mr. Hobson queried, "what habitual ailment can you assign to a goat? None. He is hardy, vigorous, never has catarrh, pulmonary or lung disease; if vermin, like ticks, for example, get on his body, they are easily disposed of. Little's dip will speedily do the business. This is also healing in its nature, and rather benefits the fleece than otherwise."

"But, Mr. Hobson, are not goats sometimes affected with goitre?" "Yes, but so are human beings. That trouble is due to certain mineral ingredients of the soil, which, in solution with the drinking water, works the mischief. The prime remedy is to change the habits of the victim. As to the treatment of acute cases your veterinarian will inform you." [While Mr. Hobson is no doubt correct as to the cause of regular goitre, there is a form of goitre which attacks kids, and has been quite common in northern California, which appears to be due to other causes than the one he mentions].

To clip the goats twice a year, viz., in April and September, he believes the better practice. Not only is more hair obtained and much less waste resulting from the pulling off on the range by brush, but the stock is healthier, more comfortable and less liable to be hung up, injured or killed, as may happen when the long fleece is saturated with water in the wet season, or the animal is caught in a thicket and is unable to extricate itself.

Kidding.—It takes place in corrals. Provision is made for the sheltering of nannies and their offspring in inclement weather and for the feeding of the mothers when necessary. The kids are kept until they are two years old, and those which are marketed bring $2.75@$3.

HORTICULTURE.

The Exaltation of the Peanut.

By Rev. Henry S. Clubb Before the Vegetarian Society of Philadelphia.

The peanut has come rapidly into popular favor both in its capacity as a popular nut and also for the extraction of oil and manufacture into butter, protose, nutmeatose, nuterine and a variety of other combinations with cereal foods.

Its high value as a nutrient has brought it much into favor. It is in point of fact a legume rather than a nut, and yet it has some of the characteristics of a nut both in flavor and in its unground state, indigestibility.

When ground, eaten sparingly with plainer food such as bread, it forms an ideal diet, furnishing nourishment easily digested and assimilated.

The objection some have urged that it is a ground plant and therefore of a low order of food, is not well taken.

It is true the plant produces its fruit under the soil, but it is essentially an air plant, obtaining its support chiefly from the atmosphere and not from the soil.

Mr. Summer of Tip Top farm, Marquand, Mo., tried experiments and found that the peanut thrived on rocky and gravelly ground as well as in rich soil. This shows that it is an air plant and does not depend on the richness of the soil, which confirms my contention in regard to its being mainly an air product.

A Nitrogen Gatherer.—Like clover, peas, lentils, etc., it has the wonderful faculty of abstracting nitrogen from the atmosphere, making it a valuable plant as a fertilizer of soil. This is also shown in the large proportion of protein, of which the peanut contains 10% more than beef. Another advantage is that it stood the dry weather exceedingly well.

It is one of the great problems of the U S. Agricultural Department what to do with those arid lands that are not capable of being irrigated and are too dry for ordinary crops. The peanut, we believe, furnishes the solution of the problem.

Mr. Summer says the peanut continued to produce a profusion of clover-like leaves up to the October freeze, and the rootlets were covered with the nitrogen-gathering bacteria.

Instead of impoverishing the soil, as might be expected from so nutritious a plant, it actually enriches the soil with the large amount of nitrogen it abstracts from the atmosphere and retains in its roots. If the stalks are all turned under, the enrichment of the soil is much greater.

The peanut can be grown as far north as the northern part of the lower peninsula of Michigan, while at present it is only extensively cultivated in a few of the Southern States. It can be grown profitably, we believe, in every State in the Union and even in southern Canada.

Mr. Summer claims it is more productive than the Irish potato.

It is even better than clover as a nitrogen gatherer and enricher of the soil. The cultivation of the peanut is, therefore, a great promoter of fertility, and even if by unusually cold weather, it should fail to produce in some Northern States a profitable crop of nuts, its being fed to cattle, or even plowed under, its effect on the soil would make it as profitable as a crop of clover in promoting fertility of the soil, being an excellent preparation for wheat or other grain crops that do not possess the same faculty of abstracting nitrogen from the atmosphere. As a rotation crop on a grain or rice farm the peanut is invaluable, and when the wheat growers of the Northwest and the rice growers of the South discover its value in preparing the soil for grain, they will plant peanuts on their thousand-acre fields, making peanuts as abundant as rice, wheat, barley or oats.

Peanut Products.—Peanut butter is rapidly becoming a staple article of commerce, and when its virtues are discovered it will become still more popular.

It possesses these marked advantages over the common dairy butter.

1. It will not absorb offensive odors.
2. It will stand a much higher temperature without melting.
3. It is not known to become rancid when made pure without salt or other foreign substances.

As a test of its keeping qualities I carried a sample of peanut butter in a small tin box in my vest pocket one whole summer while traveling in the Southern States, and on returning home it was still sweet and good.

It can be used to make a great variety of valuable foods. In Mrs. Lambert's Guide for Nut Cookery there are over fifty recipes for choice combinations of food into which peanut butter is the principal ingredient. These dishes are of very nourishing character and render the use of flesh food even for the gratification of the palate, wholly unnecessary, while they furnish more variety and richer dishes than can possibly be obtained from butcher's meat or any other product of slaughter. The fact that there is 10% more protein or flesh-forming substance in peanuts than in the best beef is sufficient to settle the question of nourishment, while the rich fat and the carbohydrates (in which beef is deficient) prove that the peanut furnishes a body builder superior in every respect to any kind of animal product.

For the manufacturers of candies and confections the peanut is becoming more popular than ever, and the fact that the privilege of selling peanuts at the World's Fair commanded a higher premium than any other concession on the ground, is an evidence of the great popularity of this valuable product.

As an oil producer the peanut comes next to the cocoanut on account of the large proportion of fat it contains, and as the peanut can be produced in a few months from its sowing and can be grown on any soil and in any climate where beans will grow, it possesses important advantages over the cocoanut as an oil-producing crop, and must ever be more economical, producing a sweet and wholesome oil at very moderate cost.

At the present time the supply of peanuts is not equal to the demand even at the present high prices, and when they can be produced at half present prices the demand will be quadrupled.

The peanut crop will become one of the great staples of commerce to take rank with wheat and rice as one of the most important articles of food supply to the millions of consumers in all parts of the world.

We object to the claim that peanuts are worth growing on rocky ground or even on clay soils which are likely to become hard or drying. The soil must be light, loose and readily penetrable. As for nitrogen gathering, the peanut cannot endure frost and therefore it is out of the list of green manure plants for California except as a summer crop, either grown with irrigation or on low lands naturally moist during the dry season.—Ed.

The experts of the United States Department of Agriculture seem to have really secured a good ant from Guatemala. It is checking the ravages of the boll weevil in the Texas cotton fields, and it is now announced that the Guatemalan ants promptly destroy the weevils and the Texas ants as well. Now the agricultural ant of Texas is a bad ant—no doubt about that. It is the worst ant, from an agricultural point of view, in the United States. Even books have been written about its badness, and it will be a good thing to have it destroyed, but what will happen when the Guatemalan ant gets all the bad things in Texas cleared out? That must be reserved for another chapter, as the story writers say.

THE GARDEN.

A Chapter on Slugs.

Dr. R. E. Stearns of Los Angeles, one of our leading California naturalists, writes concerning slugs in the Nautilus for July. He notes the report of the occurrence of the great slug (Limax maximus), which has varieties which show blackish colorations, in Redlands, and says this occurrence carries this form farther inland and to a greater elevation than heretofore recorded in California. Continuing in more popular vein, and therefore more available for our reproduction, Dr. Stearns writes as follows:

In some places this slug has already become a pest. In my grounds I have not found that it does any material damage to flowers or plants, quite unlike Helix aspersa in this matter. It seems to prefer the vicinity of the garbage can, which it exploits after dark, being nocturnal in its wanderings, concealing itself in cool, damp, dark or well-shaded places during the day. A greasy, cast-away soup bone is apparently to its liking, judging by the numerous slime tracks centering around such an object. It frequently invades human habitations, directing its visits to the pantry. It is surprising how small a hole or narrow crack even the largest individuals can pass through. In order to keep them out, especially of the pantry and porches, ordinary table salt in liberal quantities strewn around and close to the threshold, inside and outside of the pantry and kitchen doors, and other places indicated by the shiny slime tracks as points of entrance, will do these pests up every time; the salt adheres to their sticky bodies, dissolves and is absorbed, and the intruders are literally corned to death. For all places about the dwelling house salt is the safest and most effective article. Air-slaked lime that has not lost all of its heat is also good. This should be used freely in cellars and basements and other places of concealment where the slugs occur. Another remedy, excellent, but too poisonous to be used unless safely placed out of the way of children or pet animals, is made by taking the refuse of the soup kettle, adding water so as to make when stewed a gruel of the consistency of molasses; mix with it, after straining out the coarser portion, some Paris green; daub pieces of board or old shingles with some of the mixture, and place near such spots as are indicated by the tracks. This prescription is a settler.

Having experimented successfully with these "remedies," I can assure satisfactory results. Of course, trapping under pieces of board placed here and there, turning the same occasionally and collecting by hand, may be practiced with more or less success.

In England, in wet, cool seasons, slugs are particularly destructive to fields of young wheat; there they work at night. Lime is used to a great extent, and trapping under cabbage and other large leaves is often resorted to. Soot is sometimes used in the wheat fields in the same way as lime.

Another foreign slug, Limax (Amalia) hewstoni (= A. gagates ?) had become a nuisance in the grass plots of San Francisco twenty years ago, and has presumably extended its territory over a larger area by this time. Our large native slugs, Limax (Ariolimax) columbianus Gld., and its near relative, californicus Cp., inhabitants of central California, the first named found also as far north as British Columbia, appear to be free of the sins which have made the foreign forms obnoxious. These two species are sometimes met with of the length of 6 inches. Their dirty yellowish green color, often blotched or spotted, is rather repulsive. It is not unlikely that slugs may become a serious pest to farmers in some parts of California at some future time—an unwelcome incident pertaining to the development of irrigation.

The sense of smell seems to be highly developed in L. maximus, and probably in all of the slugs, and, again, the sense or instinct of direction. L. maximus is the only species that I have had an opportunity to observe in this connection. The slugs are "not popular with the masses," and very good people call them "nasty things."

The unwary should take notice that Dr. Stearns does not commend salt except for house use. It can not be used in the garden, for common salt is very destructive to plants, except in quantities too small to be of account as a slugicide.

THE DAIRY.

Shocking Fight With an Angry Bull.

We gave an exhortation not long ago to give a bull no chances to get the advantage. If the point needs enforcement, read the following account of what happened when the bull had a chance: Fred Schmidt, one of the recent comers to this locality, says the Modesto News, who purchased the old Wood ranch on the Oakdale road, 6 miles from Modesto, is confined to his bed suffering from injuries received on

Monday in a terrible fight with his pet bull, Duke.

Mr. Schmidt is one of the partners who recently purchased the business of Henry Vogelman in Modesto. He lives on his ranch, and on Monday last he went out to an alfalfa field to drive the pet bull, Duke, from the field. He was not afraid of the animal for the reason that people employed about the ranch had trained the bull in his younger days to drive in harness, etc. On Monday, however, the bull lowered his head when Mr. Schmidt got within about 15 feet of him and started for the man. Mr. Schmidt was knocked to the ground and the bull planted both knees on his body and started to gore him on the neck and chest.

Some time ago the bull had been dehorned, and stubs of the horns, perhaps 1½ inch long, had been left. With these stubs the bull repeatedly gored Mr. Schmidt, terribly lacerating and bruising his neck and arms and chest. In sheer desperation the aged farmer drew his pocket knife and opening the blade made a number of stabs at the eyes of the angry bull. This had the desired effect and the bull backed away for some feet, during which time Mr. Schmidt arose from the ground and started to run for the nearest fence. The angry animal followed and in a short distance again caught the fleeing farmer, who was again thrown to the ground and gored and bruised. The knife was once more called into requisition, and one of the bull's eye was cut entirely out. This only seemed to anger the animal the more, and once more as soon as Mr. Schmidt arose and started for the fence he was knocked down before he had gone many feet. This operation was repeated eight or ten times before the fence was finally reached. The farmer got over the fence—he cannot tell how—but not before he had penetrated both eyeballs of his mad antagonist with his knife.

As soon as Mr. Schmidt got over the fence he almost fainted, and had to lie there for several hours before he could recover strength enough to walk to his home, about ½ mile distant. While he was lying there in a very serious condition the angry bull made several other attempts to get at his victim, but in his blinded condition could do nothing, and Mr. Schmidt finally recovered so that he could walk to his home. Medical aid was immediately summoned and Mr. Schmidt has been confined to his bed with terribly bruised and lacerated chest, neck and arms. He stated that if the bull had not been dehorned that he would have lost his life on the first attack.

Mr. Schmidt's condition is improving, and if there are no serious internal injuries he will be able to be about within a week or two. Mr. Schmidt says that this is the most exciting and dangerous experience of his life and he cannot now see how he escaped death.

The Hornfly Pest.

Complaints of the annoyance occasioned by the hornfly pest and requests for measures that may be adopted to lessen it are always brought by the advent of summer, says the Breeders' Gazette. There is no mistaking this miserable little pestiferous fly, no doubt as to the damage he does and no wonder that means are sought to minimize the effects of his unwelcome presence.

The hornfly is one of the unsolved farm problems. The fact that they multiply prodigiously in the droppings of animals furnishes a hint as to the means to be adopted to lessen their numbers, but this pest seems to be permanent. The hornfly and the common fly may readily enough be circumvented by the use of the various fly repellants or fly removers or shooflies that are on the market, to be applied with a spray pump. This form of prevention is reasonably effective when carefully and persistently applied. In small herds that are stabled their use is entirely practicable. Moreover, much annoyance and suffering may be spared the work teams and the driving horses by the use of these sprays. Perfection has not yet been attained in the manufacture of these fly repelling compounds, but if judiciously used they are well worth all they cost. At milking time the ordinary sized herds of dairy cattle may be expeditiously sprayed and comparative freedom from the flies secured for some hours thereafter. Show herds may be readily shielded from this annoyance by the use of the spray, and young stock in yards or paddocks may be similarly treated. But such treatment is not practicable with large herds that run at pasture.

The ideal summer treatment of cattle, whether dairy or feeding cattle, is to give them access to a darkened barn or shed in the heat of the day when flies are most troublesome. Most farms afford the means for the adoption of this simple and helpful treatment. Gunny sacks hung over the windows shut out the light without interfering materially with the circulation of air, and the doors may also be draped with this material. With such a retreat the cattle may fight the flies with a marked degree of success. Every farmer who has witnessed the discomfort and distress caused by the hornfly and the common fly at the height of the season in which they exercise their pernicious activities to the limit will appreciate the humanity and the economy of providing darkened quarters to which the stock may retreat and free themselves in a measure from the attacks of these relentless little bloodsuckers.

Fine Cattle Direct From Holland.

The Pierce Land & Stock Co., says the Stockton Mail, have recently received the first carload of their imported cattle. Three more carloads will arrive about August 1st. These cattle represent many weeks of labor on the part of Frank S. Peer, who was commissioned by Charles D. Pierce to search Holland for the finest specimens of Holstein-Friesian cattle that could be purchased.

The shipments reach the fondest hopes of Mr. Pierce, for they are said to be the finest that ever left Holland. Mr. Peer's sojourn in Holland covered many weeks, during which time he conducted a diligent search for the very best animals. Before shipment all the cattle purchased were subjected to the most exacting tests for tuberculosis and other diseases by Dr. Geddie, a well-known veterinarian and representative of the American Government at London.

The cattle landed in Quebec, Canada, on March 10th, after a most eventful voyage, having been caught in the ice in the Gulf of St. Lawrence. The forty head stood the trip excellently, being accompanied by a number of attendants and having a large supply of feed aboard. The attendants created much amusement in their onward march toward California. Their large, clumsy, wooden shoes and square-cut hair looked odd enough amidst American surroundings. The cows don't seem to mind at all and rather resent American fashions.

Before leaving Quebec the animals were inspected by W. C. Hunt of Liverpool N. Y., who was commissioned by the Holstein-Friesian Association of America to examine the cattle. The bull, Jetze, who heads this herd, he pronounced one of the finest animals he had ever seen. This bull was famous in Holland and said to be among the very best animals in that country. He has never been beaten in the prize ring and brings with him two medals bearing the royal coat of arms.

The Newcomers.—The females imported are of the very highest grade. Among those just arrived is the great cow Visser XVII, said to be the greatest milk producing cow in Holland. In the spring of 1903 she gave 86 pounds of milk in one day. During this time she was fed entirely on grass, no grain being given, and milked but twice a day. Another famous cow is Alcartra Polkadot, the greatest of all five-year olds, with a record of over 27 pounds of butter in seven days. This cow is not imported from Holland, but was raised in Wisconsin, where she was purchased by H. A. Moyer of Syracuse, N. Y., owner of the Moyerdale herd. Mr. Moyer paid $1000 for this cow before she had made her famous record. A sudden change in the Moyerdale estate placed this animal upon the market and enabled Mr. Pierce to purchase her. The price paid is said to have been a very large figure.

Other famous cows that have already arrived at Riverside are the great Canadian cow, Paforit Tritonia, with a seven-day butter record of 26 pounds 2 ounces, and Rowena 2 B, with a seven-day record of 25 pounds 10 ounces, and Witra II, with a seven-day record of 24 pounds 4 ounces. In thirty days this cow gave 2469 pounds of milk, yielding 100 pounds of butter. It is no wonder that Mr. Pierce, who has just returned from Quebec, is much gratified with these new accessions to his celebrated herd. A splendid lot of imported Berkshire swine has also just arrived.

Official Tests.—Official tests of a large number of head of stock will soon commence at Riverside. The tests are conducted by representatives from the faculty of the College of Agriculture of the University of California, and some splendid results are expected. The development of the Riverside herd has been remarkable. Although still comparatively young, the records made outrank those of any other herd in the world. Particularly is this true of the stock which has been raised upon the ranch, thus demonstrating that the local conditions in our California Netherlands are not to be surpassed. Over eighty cows now hold advanced register records. No other herd in the world can boast of so large a number.

Home Pork Making.

To the Editor:—Will you kindly tell me through your paper where I may find correct answers for the following questions: 1. What is the proper way to salt down pork for winter use? 2. Can bacon be sugar-cured on a small scale at home, and if so, how is it done? 3. How long should bacon be salted (or sugared) before smoking; also hams? 4. Is liquid smoke as good for smoking bacon as the old-fashioned way? 5. What are the details of making kettle-rendered lard?—Reader, Sebastopol.

You can get a very satisfactory book covering these and similar subjects. It is entitled "Home Pork Making," and will be sent by mail from this office for 50 cents per copy.

THE FIELD.

Believes the Hop Situation Strong.

Mr. M. H. Durst of Wheatland has full faith in the strength of the present hop situation and writes to the Sacramento Union on the subject. The statements do not agree altogether with some of the authorities, but this makes it more important, perhaps, that growers should see what they are:

I have received—July 23—a cable from a most reliable correspondent in England, reading: "Crop down 30%." This means that the prospect for a crop in England is to-day 30% less than it was three weeks ago.

I have also received, under date of July 21, a letter from one of the largest growers of and dealers in hops in Oregon, saying: "The crop in this State is not doing well, and it looks as if it will be short of last year, despite the new acreage. They are paying 20 cents freely for the growing crop, but growers are not inclined to contract." This means that the late rains have not done the hop vines in Oregon much good; also that the crop will most probably be under 85,000 bales, as against 100,000 to 120,000 bales, as claimed by many people interested in low prices.

There are some 16,000 to 20,000 bales less in stock on the coast than at this time last year. Dealers are offering 3 cents to 4 cents per pound more for new crop than they were the third week in July, 1903. Brewers have contracted hardly half as many hops to date this season as they had done at the same period last year. They are in some cases predicting high prices for hops and intimating that it may be necessary for them to raise the price of beer to consumers.

The crop in Washington is not promising as to yield, and in California it seems improbable that we will grow as many hops as in 1903. From New York State the reports are conflicting, but the precarious season is coming on, and the yield is almost as likely to be as low as in 1902 (25,000 bales) as it was in 1903 (53,000 bales).

The reports from the continent of Europe, which were very favorable for big crops until within the last two weeks, are now coming all the other way, and predictions are for no better crops than last season.

All of these facts, in conjunction with the increased demand by dealers all over the United States for contracts of 1904 crop, seem to strongly justify reasoning growers in assuming that there is a bright outlook ahead for very much better prices than are now offered. It seems safe to predict that within two weeks dealers will be paying 25 cents per pound to Pacific coast growers, and many of us rather expect to see choice California hops bringing 30 cents per pound before September is gone. As representing the largest growth of hops in California, I wish to lay these facts before California hop growers.

Improving California Wheat.

Upon this subject, which we have chosen for editorial comment in recent issues, we find the following in the annual address of President Babcock of the Merchants' Exchange of San Francisco:

At a recent meeting of the California State Board of Trade the principal subject of discussion was California wheat and its merits in competition with wheat produced in other States. In the past, the prosperity largely depended upon its wheat crop and there is no reason why, in the future, it should not be one of its greatest resources. When a country like France, where the land has been cropped for centuries, can profitably produce an annual yield of 10,000,000 tons, or an average of thirty bushels per acre, can any one say that this great State of ours will never again raise 1,000,000 tons? To-day our average yield does not exceed thirteen bushels per acre. A great deal can be done by the individual effort of the farmer in planting proper seed, and with a scientific application of the necessary fertilizers, we can increase our output, and with profit too, just as the Hawaiian islands doubled their yield of sugar by the same scientific measures. This is a matter of such vital importance to the State at large, that certainly the Legislature should make a liberal appropriation for experimental purposes, as suggested by the State Board of Trade. To this city it means much, for if we have no wheat to export, there will be practically few ships seeking our port, and our much vaunted commerce will sink into greater insignificance than the position which it occupies to-day as regards its foreign trade, which is practically at the bottom of the list of the fifty great mercantile ports of the world. This is hard for us to believe, perhaps, but it is true nevertheless.

Aneroid barometers are made which will measure 3000 feet below the level of the sea. The better ones will read to 1 foot. They are mostly in use in the English coal mines, the workings of many of which are below sea level.

Agricultural Review.

Butte.

VACCINATION TO PREVENT ANTHRAX.—Gridley special to Sacramento Bee: Vaccination to prevent the spread of the dreaded cattle disease—anthrax—is going on again at the Ord ranch. A band of about 400 head of cattle that were brought down from the north last week have been vaccinated once, and in another week will get the second dose, as is customary. The results are very satisfactory, as not a head has been lost since the vaccination program was started on the Ord ranch and the Butte Creek pasture lands belonging to J. A. Evans. Prior to beginning the preventive treatment losses were frequent, and one of the most exasperating features of it was that the best animals, including stock for breeding purposes, were attacked first.

Fresno.

PEACH CANNING.—Republican: The peach canning season is now on, and the Fresno canneries are now running in full blast. The California Fruit Canners' Association started to handle the crop about a week ago. About 500 men and women are being employed in handling the crop of Tuscan clings and Yellow freestones, which those in charge say is the finest fruit ever shipped from this county. The quality is of the best and the output this year from the Fresno canneries will be larger than in the previous years. The Association have placed new machines in their plant and are prepared to handle more fruit in less time than last year. The cold weather has delayed the crop about a week, which will throw the last of the season far into September. The Griffin-Skelley cannery opened with a crew of between 300 and 400 men and women. Freestone peaches are being handled almost altogether now, the clings being reserved till later. The cannery will be in operation for about two months.

BIG PEACHES.—Enterprise: Last week E. C. Racey, superintendent of the Kimble orchard, shipped a choice lot of peaches to the city. One 20-pound box contained only fourteen peaches. The fruit was not only large, but luscious. Superintendent Racey reports a crop of exceptional quality and heavy yield this season on the Kimble orchard, which consists of 290 acres in peaches. Fruit cutting commenced at this big orchard Monday and a large force of women and girls, besides many pickers, will be employed for the next six weeks. The clings on the place were sold to a cannery for $20 a ton and about 200 tons will be shipped.

Kings.

A BIG LAND DEAL.—Hanford Sentinel: J. E. Viney arrived home from Los Angeles Tuesday. While down there Mr. Viney finished up a deal with his firm and a syndicate of Los Angeles capitalists, whereby a tract of 4320 acres of Tulare lake land was purchased by the syndicate. This land consists of sections 21 and 34 in township 21-20; and sections 3, 4, 11, 12, a part of 13 and the half of 14, in township 22-21. Much of the land was sown to wheat this season.

GOOD CROPS ON LAKE LANDS.—Hanford Journal: Theodore Park states that the work of harvesting the wheat crop is progressing rapidly down on the lake, and that the lightest yield that they have yet struck was thirty sacks to the acre, while the heaviest was thirty-seven sacks, or ninety-two bushels.

SALE OF FINE FRUIT RANCH.—W. S. Porter has sold to J. W. Bainum, a neighbor, his 160-acre farm, 4 miles northwest of Hanford. The price paid was between $50,000 and $60,000. It is one of the finest and best equipped fruit farms in Kings county, and Mr. Porter says that he has realized $60,000 from the property in the past four years. Mr. Porter retains possession of the property till November 4, 1904, and all the crops of tree fruits, raisin grapes, etc., for 1904, belong to him.

MONEY IN APRICOTS.—George Tomer, who had the apricot orchard of twelve acres belonging to Manuel Leoms, 3 miles due north of Hanford, rented this year, has demonstrated that there is big money in apricots. From this twelve acres of Royal apricots Mr. Tomer harvested this year 31,500 pounds of dried apricots, which he sold for 7½c per pound, the crop bringing him $2362.80, or nearly $200 per acre. Besides the $200 an acre yield in apricots, Mr. Leoms has a corn and citron crop planted between the trees, which crop Mr. Tomer thinks will bring him $400.

Los Angeles

APRICOT HARVEST.—Pomona Times, July 20: This harvest is about over in this section. The crop is less than expected. The Geo. H. Waters & Co. cannery has worked up 200 tons and sent some to the company's cannery at Ontario. The Pomona Deciduous Fruit Growers' Association will close on apricots this week. Hardly any of the orchards gave the tonnage expected. The fact is that the crop is generally less than the estimates a month ago. The East Side Fruit Association will close on apricots this week. The original estimate was 300 tons, but it will not exceed 225 and may not be over 200. It is believed that the unusual warm weather of July 3 was a cause of much of the shortage below the estimate of a month ago. That hot day caused much fruit to drop and "collapse" to worthlessness. The reports from all sections of southern California tell of a much smaller crop than appearances indicated in June. There is quite a percentage of the fruit small, and more than ever before was dried without being pitted.

MULTIPLYING SCUTELLISTA.—Monrovia Messenger: Inspector W. H. Payne, armed with axe and microscope, is on the trail most of the time. As he pointed out in his letter of last week, pepper trees are the scutellista's happy homes, where they find prepared health foods, in the shape of black scale, suited to all ages and conditions. Where pepper trees are being trimmed is a good place to look for Payne. The branches are taken to what may be literally termed the "bug house," and placed in covered jars and specially prepared receptacles, where the scutellista are incubated by the thousand. Many loads of pepper limbs have been used to feed and replenish the stock of flies. As the result of this labor, colonies placed in scale-infected orchards can be made numerous enough to make their work apparent from the very beginning. In large orchards several colonies are established. It is probably owing to this rapidity of distribution that the scutellista has accomplished more here than in other districts.

Mendocino.

WHEAT CROP SOLD.—Ukiah special to Sacramento Bee: The wheat crop in this valley has been contracted for, and as soon as it is harvested it will be delivered. A fair price was offered, ranging from 1¼c to 1½c per pound. This will prove exceedingly good on account of the late rains adding very much to the weight.

Mono.

CATTLE DYING.—Bridgeport special to Sacramento Bee: Anthrax, or a disease presumed to be such, is killing large numbers of cattle in this county. The Board of Supervisors has taken the matter in hand and will try to stamp it out. All owners of dead cattle are compelled to burn the same and to report all cases. The State Veterinarian has been sent for.

Nevada.

DAMAGE TO PEARS.—A Grass Valley dispatch dated July 22 says: The worst hot wave in several years is sweeping over the county. Yesterday and to-day the heat was intense, causing a suspension of work in some districts. The Bartlett pear crop, for which this section is famous, is almost a complete failure this year.

Orange.

LIGHT BEET CROP.—Anaheim Gazette: Senator T. J. Jones estimates there will not be in excess of 1000 acres of sugar beets harvested this year in the district which includes all the territory south of Los Angeles from Norwalk and Downey to the southern boundary of Orange county. Last year the same territory had 2500 acres of beets. The shortage is due to the dry season which has rendered much of the land too dry to give a yield. The total crop last year was about 30,000 tons, and this year will be about 12,000. Work of harvesting begins in August, and on account of the shortage of the crop the usual difficulty experienced in obtaining hands will not be felt this year.

Riverside.

CANTALOUPES.—Redlands Review: L. G. Haight, who has charge of the cantaloupe shipping business for the Coachella Valley Producers Association, reports the crop this year one of the best ever known in that section, and that the prices received for the melons were better than at first expected. About 600 acres were in cantaloupes this season. The first car shipped brought $1404.40. The prices gradually dwindled down to about $700 per car net. Each car contains 370 crates. On an acre of ground the number of crates harvested is between 200 and 300.

San Bernardino.

APRICOTS AT REDLANDS.—Review: The apricots grown in the vicinity of Redlands have been all picked. For several days 300 cutters have been employed around the drier, but most of these have been laid off until now there are few remaining. More than 500 tons of apricots have been shipped to Colton to be packed since the season commenced.

FORTY-POUND MELON.—Redlands Facts: C. C. Abbey returned from Thermal, bringing with him a forty-pound watermelon from his own ranch. He speaks of a visit made to the Hayward ranch, where, among other products, the proprietor is succeeding with a flock of 800 young turkeys.

Santa Clara.

FINE SUGAR PRUNES.—San Jose Mercury W. W. Thompson, who has a fine twenty-acre prune orchard 16 miles from San Jose on the Monterey road, including one acre of Sugar prunes, reports a remarkably heavy yield of the latter variety and brought a sample cluster—a limb 3 feet long which is literally crowded from end to end with magnificent fruit.

NEW WINERY.—Gilroy Advocate: At last the vineyardists of south Santa Clara valley are to have a home market for their grapes. Thousands of acres in the vicinity of Gilroy and San Martin have been planted in vines in the past five years and the yield at present is in the neighborhood of 3000 tons yearly. This is independent of the Solis Wine & Fruit Co., which handles its own grapes and some in the vicinity. W. B. Rankin of Los Gatos, representing the California Wine Association, has succeeded in contracting with heavy producers for a term of five years for the product of their vineyards. Henry Miller is the heaviest producer. His crop last year amounted to 670 tons and this season will yield almost 100 tons more, increasing as the young vines come into bearing. Mr. Miller has signed the contract and also furnished a site for the proposed winery, which will be in the old Bennett field, north of the city limits.

[The five-year-contract price for desirable varieties of dry-wine grapes is reported to be $16 per ton.—ED.]

Sacramento.

BARLEY YIELD.—Bee: The crop at Isleton and on Branan island is finished. The crop averaged about thirty sacks per acre.

Sonoma.

CANNERIES SHUT DOWN.—Santa Rosa Press-Democrat: The Russian River cannery and the Fontana cannery at Healdsburg will not run this season, as fruit is too scarce to make a run profitable. The Sebastopol cannery has contracted for the fruit of the Healdsburg Fruit Association.

PROFIT SHARING.—Healdsburg Tribune: F. M. Gully & Son started their apple drier the first of the week. They have purchased the fruit from a number of orchards. Last year Mr. Gully operated at a loss, and this season he has adopted a plan which will prevent loss to him, and at the same time will enable the grower to profit if the market price for apples goes up. On the basis market price of 5c per pound Mr. Gully pays the grower $6.50 per ton for fruit. Should the market price raise, for every cent it goes up he will pay the grower $1 per ton additional. If, however, the price should fall below 5c. Mr. Gully will shut down his drier, as he cannot operate it at a profit below that figure. Mr. Gully will likely secure all the fruit he can handle. He expects to be in the market for prunes also.

Shasta.

PEARS GOOD, PEACHES FAIR, PRUNES LIGHT.—Redding Searchlight: Orchardists generally estimate that the yield of prunes will be only about one-half the record breaking crop of last season. Peaches will be an average yield, although the clingstone varieties are a little shy. Anderson is famous for its Bartlett pears. Most of the growers of this variety of fruit have contracted their output at $25 a ton. They could get a better price now. The partial failure of the crop of prunes is considered to be the natural sequence of the phenomenal crop of last season. In 1903 the trees simply exhausted their vitality and could not be expected to produce so abundantly in 1904. It is so with other orchard fruits. In the Anderson orchards peaches are beginning to ripen, and by August 1st the harvest will be at its height. Pears will move to market about August 15th and prunes September 1st.

Stanislaus.

ALFALFA INDUSTRY MENACED.—Modesto News: Harry Clark, an alfalfa grower in the Turlock district, 7 or 8 miles from Modesto, warns alfalfa growers to be on the lookout for the Russian thistle. There is a good deal of the obnoxious weed in his young alfalfa which was planted this year. To make sure that it was really the Russian thistle Mr. Clark had two neighbors, recent settlers from Nebraska, where the thistle thrives, look at the plant and identify it. The Russian thistle is the most dangerous enemy of alfalfa known. The plant is like a tumble weed, being shaped much like a globe. In the fall the root breaks off just above the ground and the winds make the dry plants roll about the country, scattering their seeds everywhere. Alfalfa growers from Nebraska and Colorado state that some ranches there have been abandoned because the Russian thistle has taken possession of the entire ranches.

SPONTANEOUS COMBUSTION.—A bad fire, said to be the result of spontaneous combustion, broke out at Miller & Lux's Grove ranch, south of Newman, on Tuesday, in a huge stack of chopped alfalfa. It is supposed the hay was stacked a little too green. Nothing could be done to save the hay, of which some 500 tons was exposed to the flames. At last reports the fire was still burning, and it is expected to burn a week.

TWO SPECIMENS OF GRAIN.—Modesto Herald: The finest wheat we have seen this season comes from T. K. Beard's land on the Waterford road. It is Australian and uniformly large, plump and clean. The yield was about ten sacks to the acre and it weighs 142 pounds to the sack, or ten pounds above the average. It brought $1.37½. The poorest wheat we have seen comes from good land a few miles west of town. It is club, smutty and wofully pinched—the grains not averaging half size—and very dark. It will not weigh over 112 pounds and will not bring over $1.10 or thereabouts.

LARGE LAND DEAL.—Of the Fin de Siecle land deal with a Fresno syndicate, later information shows that the land in question comprises very nearly 10,000 acres. It is nearly all in Stanislaus county. Roughly speaking, the tract is bounded on the east by Hillmar colony and on the west by Crow's Landing road, near the San Joaquin. The area is all in one body, but for working purposes it will probably be divided into two tracts. The eastern one will be known as the California Alfalfa Colony; the western as Turlock Colony, or, perhaps, the Turlock River Colony. Each will contain approximately 5000 acres.

Sutter.

ALMONDS SOLD.—Yuba City Farmer: At the meeting of the Sutter Almond Growers' Association held last Monday the crop of the members for this season was sold to the J. K. Armsby Co. by a majority vote of those present and at the following prices, being considerably in advance of the bids put in at the previous meeting and from 1 to 2½ cents per pound, according to varieties, over the selling price of 1903: Nonpareil, 13 cents; IXL, 11.60 cents; Ne Plus Ultra, 11.10 cents; Drakes, 9.80 cents; Languedoc, 9.30 cents; Golden State, 9.10 cents; Routier's, 9.60 cents; La Prima, 11.10 cents; Llewellan, 9.85 cents.

Tehama.

CANNING OLIVES.—Corning New Era: We recently saw some olives that were put in the cans here over two years ago and every berry was in as fine condition as could be asked, firm and with a fine flavor. We believe there is good money for our growers in olives properly packed, and hope that everything in that line will be worked up this season.

FRUIT DRYING.—Red Bluff special to Sacramento Bee: The Tehama County Fruit Co., which erected a large fruit-drying plant here last year, is about to begin operations. It has contracted to dry the pears from the Cone ranch. These will amount to about 200 tons. This is not all the crop, but the part of it that will be dried. The rest of it will be shipped green. The company will handle something like 750 tons of prunes and 400 tons of peaches.

Yuba.

CANNERY CLOSED.—Marysville Democrat: The Yuba City plant of the California Fruit Canners' Association will not be operated this season, as orders have been received to not commence work there and to transfer all business of the concern to the Marysville cannery.

Horse Owners! Use
GOMBAULT'S
Caustic Balsam



A Safe, Speedy, and Positive Cure

The safest, Best BLISTER ever used. Takes the place of all liniments for mild or severe action. Removes all Bunches or Blemishes from Horses and Cattle. SUPERSEDES ALL CAUTERY OR FIRING. *Impossible to produce scar or blemish* Every bottle sold is warranted to give satisfaction Price $1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars.
THE LAWRENCE-WILLIAMS CO., Cleveland, O.

The Home Circle.

Send Them to Bed With a Kiss.

O mothers, so weary, discouraged,
Worn out with the cares of the day,
You often grow cross and impatient,
Complain of the noise and the play;
For the day brings so many vexations,
So many things going amiss;
But, mothers, whatever may vex you,
Send the children to bed with a kiss!

The dear little feet wander often,
Perhaps, from the pathway of right;
The dear little hands find new mischief
To try you from morning till night;
But think of the desolate mothers
Who'd give all the world for your bliss,
And, as thanks for your infinite blessings,
Send the children to bed with a kiss!

For some day their noise will not vex you:
The silence will hurt you far more.
You will long for the sweet children's voices,
For a sweet, childish face at the door,
And to press a child's face to your bosom
You'd give all the world for just this:
For the comfort 'twill bring you in sorrow,
Send the children to bed with a kiss!

—New Orleans Picayune.

Time's Revenge.

"Have a chair," said the young man, turning from a desk piled high with papers. She had come at last, and he was glad. He had been expecting her for a week. At first sight, she was young; at second, a school-teacher who had seen service for perhaps fifteen years.

"Miss Morrison, I believe," said he with a slight inclination of the head. She smiled assent.

He studied her face critically for a moment. Time had brought no inward grace to compensate the loss of outward prettiness. The same small, sordid mind, with its quick but futile brightness, looked out from the small black eyes. The same silly scorn and selfishness were stamped upon her face.

She grew uneasy under his gaze, and a look of pained uncertainty came. Professor Mason had seen that look a great many times during the past ten days. He was the new county commissioner.

"Well, sir," Miss Morrison said with affected lightness, "I thought I would come in and get my certificate."

"It has not been issued yet," replied the commissioner.

She flushed and looked frightened.

"Why, professor, didn't I make the grade?"

"Yes, you made one per cent above the requirement."

"I'm so glad!" she exclaimed, brightening. "It would have been dreadful to fail, and this is my first year here. Back home," she went on confidentially, "I always made the highest grades in the county. But you, professor, have very high ideals for us poor teachers to reach. Can I get my certificate this morning?" she asked, after a moment of silence.

"I fear not," replied he.

"Why?" she asked, with a suggestion of sharpness in the inflection.

"I think I will not issue it," he replied.

"Not issue it!" she exclaimed in amazement. "You said I made the grade."

"Yes, you made the grade, but I do not believe you are competent."

"How could I make the grade if I wasn't competent—what's the examination for?" Her voice was rising. "I demand a certificate."

"The law here, Miss Morrison, provides that when the commissioner knows any reason why a person is not a good teacher, he may withhold the certificate, even after the examination has been passed."

"It's partiality, pure partiality," and she came toward his desk, shaking her finger at him menacingly. "It's because I'm a stranger, and you want that Miller girl to have my school. But you can't fool me that way; I'm going to have my certificate if I have to sue you for it. 'Incompetent.' You don't know anything about me—and you wouldn't know what Competent was if you met it in the road. I tell you I have taught for fifteen years, and I'm going to have my certificate."

"Sit down," said he, calmly.

She obeyed.

"Miss Morrison, don't you recognize me?"

"Well, I should think I do," she said with a sneer. "You're Mason the Great."

"Did you ever see me before you came to this county?"

"No," she snapped.

"Then, Miss Morrison, I will tell you a story that perhaps will help you understand:

"About sixteen years ago a tow-headed boy of seven started to school in the Oak Grove district in Stone county. He wore patched trousers, a torn hat, a cotton shirt, and carried a badly worn first reader under his arm.

"As he went home that first day, a seventeen-year-old girl and a young man walked behind him. 'Ain't that Mason kid a beaut?' she said to her companion. 'Wouldn't you like to have that patch for a saddle blanket?' and the two laughed all the way home. The little chap cried himself to sleep that night, and although he was soundly thrashed every morning for a month, he refused to go back to school.

"It was three years before he went again. He had learned to read and had begun to dream of being a great man. He was hungry and thirsty for knowledge, and because he had learned to read he thought he could learn. His clothes were about the same, except that the patches were larger and more numerous. The girl who had laughed at him that first day was now a teacher, but he went anyway.

"He had to begin at the first of everything except the reader.

"'You ought to be ashamed of yourself,' she said, so loud that the whole school could hear. 'A boy as big as you to be so green.'

"He never got over that hurt, but he stayed on. When he blundered she mimicked him and the class laughed. When she wanted to punish some one as an example she picked out the boy, because his father had no influence in the district and the boy had no friends in the school. Still the boy bore it and did his best, for he was starving for knowledge.

"One evening his father told him that he must shuck a load of corn before he went to school next day. He went to the field at four o'clock and began husking the frosted ears by moonlight. When he finished it was nearly school time, and he hurried off without his breakfast. He was twenty minutes late. She did not ask for an excuse, but kept him in at noon. The boy's dinner was always so poor that he slipped away to eat it That day he ate nothing.

"She gave him work that he had not learned, and when he failed called him 'dunce,' 'numbskull,' 'blockhead.' He began to believe that he could not learn, still he struggled on for three months.

"The boy came to school one day with his shirt pinned with a thorn. As he marched in he lost the thorn. He did not notice it, but the school did, and when the teacher discovered the cause of the laughter she said with a sneer, 'A fine mother you must have to send you to school like that.' The mother was ill. The boy remembered that for weeks she had tried to sit up in bed long enough to mend his clothes, but at last her tired hands had failed.

"He gathered up his books and walked out of the schoolroom, not to return.

"The boy decided to give it up, and it was not until four years later that he discovered by accident, or Providence, that he could really learn.

"I am that boy and you are that teacher."

She did not stir nor speak.

"Heaven alone knows how many pupils have been blighted by your tongue. Now you understand why I refuse to grant you a certificate."

"I don't care so much for myself, but what will become of poor sister Mary?" She was crying hysterically. "It is all we have to live on."

"I have granted Mary a certificate and she will teach your school," said the commissioner.—William H. Hamby.

A Medical Judgment of the Japanese.

The Japanese have taught Europeans and Americans a lesson and quenched in some degree the conceit of the Caucasian in his superior capacity to do all things. Even in the matter of diet, our long cherished theory that the energy and vitality of the white man is largely due to the amount of animal food consumed, must undergo revision.

The Japanese are allowed to be among the very strongest people on the earth. They are strong mentally and physically, and yet practically they eat no meat at all. The diet which enables them to develop such hardy frames and such well-balanced and keen brains, consists almost wholly of rice, steamed or boiled, while the better-to-do add to this Spartan fare fish, eggs, vegetables and fruit. For beverages they use weak tea without sugar or milk, and pure water, alcoholic stimulants being but rarely indulged in. Water is imbibed, in what we should consider prodigious quantities. The average Japanese individual swallows about a gallon daily in divided doses.

The Japanese recognize the beneficial effect of flushing the system through the medium of the kidneys, and they also cleanse the exterior of their bodies to an extent undreamed of in Europe or in America.

Another—and perhaps this is the usage on which the Japanese lay the greatest stress—is that deep, habitual, forcible inhalation of fresh air is an essential for the acquisition of strength, and this method is sedulously practiced until it becomes a part of their nature.

The Japanese have proved that a frugal manner of living is consistent with great bodily strength—indeed, is perhaps more so than the meat diet of the white man. As to the drinking-water habit, which is so distinctive a custom with them, it is probably an aid to keeping the system free from blood impurities, and might be followed with advantage in other countries, to a far greater extent than is at present the case. Hydropathy and exercise seem to be the sheet anchors of the Japanese training regimen, and, judging from results, have been eminently satisfactory.—Medical Record.

Witness Agreed With Lawyer.

"Several weeks ago," said Judge Monroe, "I saw a witness take down a lawyer in great fashion. The witness was a farmer and he was in court complaining that a certain fellow had stolen some of his ducks.

"Do you know that these are your ducks?" asked the lawyer.

"Oh, yes, I should know them anywhere," replied the farmer, who then went into detail, describing the ducks and telling him just why he would know them.

"But these ducks are no different from any other ducks," said the lawyer. "I have a good many in my yard at home just like them."

"That's not unlikely," responded the farmer. "These are not the only ducks I have had stolen in the last few weeks."

Mildew on Leather.

Down by the seashore, where houses are damp, nearly everything is inclined to rust or mildew. This latter especially appears on leather goods. Bags, trunks, valises, shoes and innumerable other articles made of leather are often ruined by the mildew. There is one species of mildew fungus at the seashore which eats so deeply into the leather that the fine appearance of it is forever ruined unless prompt action is taken as soon as discovered. The best method of removing the mildew is to dust it off carefully with a dry cloth, removing all loose particles in this way. Then rub gently with a soft cloth soaked in pure petroleum. The leather should be rubbed with this until all signs of the stain have disappeared. Then dry and polish with a soft cloth, finishing off, if possible, with a piece of velvet or silk.

A Coffee-Making Method.

Of the ways of coffee-making there is no end. Every housewife has her own pet theory as to the process, not to mention the many men who think their little recipe by far the best.

First of all, it is important to know how to buy coffee, for when one has secured a real good mixture of Mocha and Java, it matters not so very much how it is made. There are, of course, many grades of the "one-third Mocha and two-thirds Java," which is acknowledged to be the best obtainable mixture. No one in these days of adulteration would dream of getting the pure mixture at any price or in any grade without special effort, if, indeed, at all.

About the only sure way of securing good coffee and getting the same kind right along is to make the acquaintance of a wholesale dealer in coffee, or of some one who works for such a firm, and have him put up samples of various kinds. Then, having decided which is best suited to the family palate, purchase the coffee in tightly covered tins, weighing from ten to twenty pounds.

One who has handled coffee for many years says that adulteration can be detected in several ways. The more common way is to press a sample of ground coffee in the palm of the hand, and if it contains chicory or some substance besides pure coffee, it will form into a little mass, the particles sticking together. Another method of detecting the presence of a substance other than coffee is to put a little ground coffee in a glass of clear, cold water. Cover the top of the glass and shake thoroughly. If the coffee is pure, the water will remain almost clear and the grounds will float on the surface. Pure coffee contains an oily substance which prevents the grains from mixing with the cold water. Adulterations are not so protected, and soon color the water noticeably.

This same authority gives as the correct way of making coffee a process that is exactly like that of tea-making, with the exception that the coffee is allowed to stand a little longer to steep.

A coffee pot should be of white enamel inside, for it is of the greatest importance that the pot be immaculate. Place a spoonful of the ground coffee in the pot and pour over it two cups of boiling water; cover the spout of the coffee pot as well as the top, so as to keep in the steam and strength. Set on the back of the range, where it will keep warm, but cannot boil. Coffee made in this way does not require any egg to settle it, for at the end of ten minutes it will be like amber; when poured into the cup it has the delicious aroma which is noticeable when one passes a place where coffee is being made.

The crime of serving "warmed-over" coffee is a heinous one for housewives, as it is never palatable and is injurious. If a quantity of coffee purchased, too small to make exchange practicable, proves below the mark, do not mix it with some really good coffee in order to "use it up." It can be used in making ice-cream and jellies and Mocha icing for cake. Left-over coffee can also be utilized in this way as well as for "iced coffee," but care should be taken to see that the decoction intended for such purposes be poured at once from the grounds. When grounds and liquid steep together for hours, the coffee gets muddy in color and "dull" in taste.

Another way of using up poor coffee is to color starch for ecru window draperies and lace curtains, using strong boiling coffee instead of water in making the starch. This will preserve the rich color of ecru lace.

But to return to the making of beverage. Whatever method is used, the water should always be freshly boiled. A small granite tea kettle should be kept for the purpose of boiling the water for tea and coffee, and when it is not in use for this purpose it should be wiped dry, inside and out, and set away. In this way one makes sure of fresh boiling water.

When one uses a "drip coffee pot," a very clear and strong cup of coffee can be made. Coffee which is to be used in

this way should be ground very fine, and a little more than one-third of Mocha may be added. This should be put into the cylinder on top of the coffee pot, and the water poured slowly over it. If the coffee pot is not of the sort which has an alcohol lamp underneath, it should stand in a dish of boiling water while the coffee filters, in order to retain the correct degree of heat.

For years one housekeeper has made "coffee for two" in the following way, with satisfactory results, and for those who still prefer a boiled coffee there can be no better way: Into a clean pot put a cheesecloth bag containing a tablespoonful of coffee for each person. To this add an eggshell and a half a cup of cold water. Boiling water poured directly on coffee is said to cook it at once and prevent it from giving out its flavor and fragrance. Eggs are washed before their contents are removed and the shells are saved for clearing the coffee. Over the coffee are poured two cups of boiling water for each spoonful of coffee, the spout of the coffee pot (which, by the way, is very short and broad, so that it is easily cleaned) is stuffed with a piece of paper or a cork which has been whittled to fit the spout, and the contents of the pot is allowed to boil for about five minutes. One-half a cup of cold water is added and the pot is set on the back of the range, where it is allowed to stand for ten or fifteen minutes. In making either tea or coffee the pot is scalded with boiling water before putting in the leaves or grounds. The recipe given above is to be served with cream and sugar. For black coffee for dinner, make as above, adding only half the quantity of water.

Viennese coffee is made by adding a teaspoonful of whipped cream to the top of each cup after the coffee is poured and plain cream and sugar have been added.

In one of Marion Crawford's Roman stories he mentions a morning cup made by dissolving a little powdered chocolate in milk and filling up the cup with strong coffee. This is a delicious change from the ordinary method, and well worth a trial.—New York Tribune.

Wanted to Be Tempted.

Mrs. Robert J. Burdette, candidate for the presidency of the General Federation of Women's Clubs, was talking one day about the white ribbon that is the sign of total abstinence.

"There are some persons," said Mrs. Burdette, "who don't wear the white ribbon with sincerity. They wear it, perhaps, about as hypocritically as it was worn by an employe of a certain brewer.

"This employe, after years of dissipation, appeared one day at the brewery with the white ribbon on his breast. Nothing was said to him, and he wore the ribbon for several months. Then, one day, the head of the firm, happening to notice the man's badge, approached him.

"'Why, Frank, it is strange to see you, a brewer, wearing the white ribbon.'

"'It does look strange, sir,' the man admitted.

"'Well,' said the brewer, 'why do you do it?'

"'It is like this,' said the workman. 'I wear the ribbon because it makes men like to tempt me, and when I'm tempted I succumb, sir.'"

How Much Sleep is Necessary.

A proper amount of sleep is, of course, absolutely essential to continued good health, but, if dietetic habits are correct, it is a matter which will regulate itself. If a rule is needed, one will follow naturally from the fact that almost everyone feels languid on waking, and is disposed to take another nap, no matter how long he has been sleeping. This is a morbid sensation which it would take too long to explain here. It is enough to say that lack of sleep should be made up, if possible, at the beginning and not at the end. The best general rule is to rise at a given hour every morning, whether tired or not, and go to bed when sleepy.—Century.

Domestic Hints.

STRAWBERRY SHORTCAKE.—Strawberry shortcake with whipped cream colored green with pistache is attractive to behold and very good to eat. Never make strawberry shortcake with cake dough. The original shortcake mixture is like baking-powder biscuits. Roll out the dough and divide in equal parts. Spread one piece with butter and place the other piece on it. Bake and while hot gently separate the two pieces. Spread with the berries and put together again. Serve with cream.

SPAGHETTI WITH TOMATOES.—Boil half a pound best Italian spaghetti in plenty of boiling salted water until tender; drain, pour cold water over it through a colander and drain again. Make a pint and a half of tomato sauce, adding a minced onion and a clove of garlic; put the spaghetti into a china-lined saucepan, pour the sauce over, add a small slice of fat bacon, first browning it slightly and chopping, and a scant half cupful of grated cheese. Cover closely and cook slowly nearly an hour.

BLANC MANGE.—Three ounces of isinglass, one pint of milk, one teaspoonful of almond flavoring, one and one-half cupfuls of cream, one-quarter pound of almonds, one-half cupful of sugar, two tablespoonfuls of noyea. Cover the isinglass with the milk, stand it aside for fifteen minutes, then heat in a double boiler until thoroughly dissolved. Add the almonds, blanched and chopped very fine, and the sugar; take from the fire and add the cream. Strain; add the noyea, turn at once into a mould and stand aside to harden. Serve with plain or whipped cream.

SNOW FRITTERS.—Beat one egg very light and add gradually a cup or half a pint of milk; into another bowl sift a cup and a half of flour; one-fourth of a teaspoonful of salt, and pour the milk and egg on the flour, stirring thoroughly to prevent lumps. Then add a large, tart apple which has been peeled, cut in quarters and chopped in small pieces. Last of all, fold in a large cupful of light, dry snow, which has freshly fallen. Drop the batter in small spoonfuls into a kettle of boiling hot fat, after rolling each spoonful into a little flour. Cook until brown, or for several minutes. Serve immediately with powdered sugar.

Hints to Housekeepers.

It is a mistaken idea to cover a carpet with a drugget in the belief that it will save it. It is the grinding on the floors that wears out carpets, and the protection should come from underneath instead of above.

To wash red table linen, put enough powdered borax into tepid soft water to make it feel slippery. Use no soap. Rinse in warm water containing a small quantity of boiled starch. Hang in the shade and iron when nearly dry.

A bolt of cheesecloth should be as essential a feature of the young housekeeper's menage as the bolt of homespun linen was of grandmother's. Nothing makes better dusters; it serves as glass and china toweling, and is an ideal fabric for the dish cloth.

Olive oil makes a superior frying medium to lard or butter. It is cheaper than butter, and does not scorch as easily as butter does. Smelts, shrimps, potatoes, bananas — in fact, almost everything that is fried in a shallow pan—tastes better for being cooked in oil.

A party camping last summer who found ice unavailable devised a refrigerator. They dug a large hole in the ground near the camp, and in this they placed a good-sized wooden box. Over the top they laid a piece of wet carpet or burlap. The milk, butter and vegetables were kept very cool.

If nothing else is put up for cold weather, a few jars of fruit juice may be managed. For strawberry juice make a syrup with two quarts of water and four pounds of sugar. Boil to the thread, add two quarts of strawberry juice, and boil for forty minutes. Bottle and seal while very hot.

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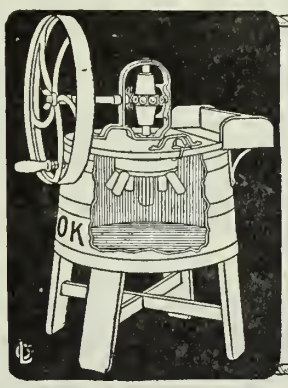
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The Markets.

San Francisco Produce Report.

San Francisco, July 27, 1904.

CHICAGO WHEAT FUTURES.

Wheat futures in Chicago were as follows for the week named, price being for No. 2 Red per bushel:

	Sept.	Dec.
Wednesday	88⅛@ 86¾	87¾@86¼
Thursday	87⅛@ 88⅞	86⅝@88
Friday	88⅝@ 87½	87¾@86¾
Saturday	87¼@ 86¾	86⅝@86
Monday	86⅞@ 88	86¼@87¼
Tuesday	87⅜@ 88¾	86⅝@87⅞

CHICAGO CORN FUTURES.

Prices of futures on No. 2 corn per bushel in Chicago were as follows for the week:

	Sept.	Dec.
Wednesday	49¾@49	46 @45⅜
Thursday	49⅛@49⅞	45¾@46⅛
Friday	49¾@49⅛	46 @45⅜
Saturday	49¼@49	45¾@45⅛
Monday	49⅛@49¼	45⅜@45¾
Tuesday	49¼@49¾	45⅜@45⅞

SAN FRANCISCO WHEAT FUTURES.

The range of values in San Francisco for No. 1 White wheat per cental was as follows:

	Dec., 1904.	May, 1905.
hursday	$1 35⅛@1 36½	$——@——
Friday	1 35¼@1 35⅞	——@——
Saturday	1 35 @1 35½	——@——
Monday	1 36¼@1 36½	——@——
Tuesday	1 36⅞@1 39	——@——
Wednesday	1 39 @1 40⅛	——@——

Wheat.

The local wheat market continues quiet. The month of July is nearly ended, and practically nothing has been done in wheat locally on export account. Ship owners are contending for a 22s 6d freight rate on wheat cargoes to Europe, and exporters are unable to secure wheat at figures permitting of paying above freight rate, calculating on present prices in Liverpool. There is little California wheat obtainable under $1.40, and scarcely any of that would grade No. 1 shipping. The few ships now on for grain loading were chartered under present asking figures, and the exporters having these vessels do not bid $1.37½ for No. 1 wheat. They may have to pay considerably more, however, before the year is over. The crop of the United States is estimated at 327,000,000 bushels Winter and 253,000,000 bushels Spring wheat, total 580,000,000 bushels, and home requirements will absorb 500,000,000 bushels. An Eastern journal says: "The bull campaign in wheat rests not alone on a shortage in the American crop. Europe also faces a shortage which Broomhall places at 200,000,000 bushels as compared with last year, and which is estimated as high as 250,000,000. Europe's shortage, coupled with ours, has an important bearing on the exports of all countries. Roumania, it is predicted, will produce 40,000,000 bushels less this year; Russia will show a short crop, if current advices from Europe are to be relied upon. Argentine's crop will not be known until December." The local market closed strong.

California Milling	$1 42½@1 52½
Cal. No. 1 shipping, alongside	1 32½@1 35
Oregon Club	1 30 @1 35

PRICES OF FUTURES.

During past week the range on options was:
December, 1904, delivery, $1.35@1.40⅛.
May, 1905, delivery, $——@——.
Wednesday, at the forenoon session of Exchange, December, 1904, wheat sold at $1.39@1.40⅛; May, 1905, $——@——.

Ocean freights and prices for wheat, as compared with a year ago, are as follows:

	1903-04.	1904-05.
Liv. quotations	6s7d@6s7½d	-s-d@-s-d
Freight rates	16¾@17⅛s	20½@—s
Local market	$1 40 @1 42½	$1 32½@1 37½

Flour.

Business is of only moderate volume, either for export or on local account. Stocks in this center are of fairly liberal proportions for this time of year, largely the product of outside mills. In quotable values there are no changes to note.

Superfine, lower grades	$3 15 @3 25
Superfine, good to choice	3 25 @3 50
Country grades, extras	4 00 @4 30
Choice and extra choice	4 30 @4 60
Fancy brands, jobbing	4 50 @4 80
Oregon, Bakers' extra	3 50 @4 00
Washington, Bakers' extra	3 50 @4 15

Barley.

Demand is fairly active, particularly for the better grades, and for barley desirable for export or suitable for brewers' needs, the market is firm at current values. Most of the purchasing is being done in the interior, and in some instances, especially for choice lots, relatively stiffer figures are being paid than are warranted as quotations at this center. Much of this season's barley is pinched in berry and too light in weight to grade as No. 1 feed. Such stock has to depend almost wholly on local mills for custom, and as the demand is limited for this common barley, sales are not always readily effected, even at prices seemingly low, as compared with values ruling for the higher grades.

Feed, No. 1 to choice new	$1 01½@1 03¾
Feed, fair to good	98¾@1 01¼
Brewing, No. 1 to choice new	1 07½@1 15
Chevalier, No. 1 to choice	1 15 @1 25
Chevalier, common to fair	1 00 @1 05

Oats.

New crop California oats are arriving in considerable quantity, but there are no heavy receipts from outside points. Present offerings are largely Reds, and these are in good request, especially choice to select, current values for which are being well maintained. Inquiry for Black oats is mainly for desirable seed stock, and offerings not of this sort fail to meet with much competitive bidders from buyers.

White oats, fancy feed, old	$1 32½@1 35
White, good to choice, new	1 22½@1 30
White, poor to fair	1 15 @1 20
Milling	1 25 @1 30
Black oats	1 12½@1 25
Red, fair to choice	1 15 @1 30

Corn.

There are no large quantities offering of any description, either domestic or imported. Market is unfavorable to buyers. All of the Eastern corn here is owned by local dealers and represents purchases made at generally stiff figures, admitting of very little shading in prices if any profit is to derived in handling.

Large White, good to choice	$1 42½@1 47½
Large Yellow	1 42½@1 47½
Small Yellow	1 60 @1 65
Egyptian White	1 30 @1 35
Egyptian Brown	1 22½@1 27½
Eastern, in bulk	1 35 @1 42½

Rye.

Inquiry is not very active, nor is there much competitive bidding on the ordinary run of offerings.

Good to choice, new	$1 20 @1 30

Buckwheat.

None offering at present in a wholesale way and only very small stocks in the hands of millers.

Beans.

Inquiry the past week has been mainly for Pinks, and this variety is being very firmly held, with stocks of only moderate proportions and largely in few hands. Purchases were difficult to effect under $3.70, unless of defective stock, and some very choice were held for still higher figures. Market for Limas is showing decided firmness, holders preferring to carry rather than make concessions. Values for other beans are in the main ruling steady, despite light movement.

Pea, fair to good, 100 lbs	$2 90 @3 15
Small White, good to choice	2 90 @3 15
Large White	2 40 @2 55
Pinks	3 60 @3 75
Bayos, good to choice	2 40 @2 55
Red Kidneys	4 50 @5 00
Reds	4 25 @4 75
Limas, good to choice	3 35 @3 45
Black-eye Beans	2 10 @2 20

Dried Peas.

There are few dried peas on market of any sort, either domestic or imported. In the absence of any noteworthy trading, values are not very clearly defined.

Green Peas, California	2 50 @3 00
Niles Peas	2 50 @2 75
Garbanzos, Large	2 75 @3 00
Garbanzos, Small	2 25 @2 50

Hops.

Local market is quiet and devoid of noteworthy strength. In new crop hops to arrive there is scarcely anything doing and values for same largely nominal at this date at 17@20c. The crop in this State is in generally promising condition, and the acreage believed to be not materially greater than last year. The New York Producers' Price Current says: "There has been some little activity on the local market the past week and some parcels of Pacific hops have changed hands at 24@26c., according to quality. Reports from New York State continue to come in very favorable, and as there is absolutely no trace of vermin, the estimates as to the results have been increased. Reports from England show an improvement, owing to more favorable weather, and the estimates are now variously placed at 450,000 to 500,000 cwts. On the Continent, both in Germany and Austria, conditions are extremely satisfactory and large yields being looked forward to, and crop in Bohemia so far advanced that early varieties will probably be ready for market by August 1." The Portland Telegram says of the Oregon market: "There are only about 4000 bales of hops unsold in Oregon. The prospects for a full crop of first-class hops in Oregon never were much better at this season of the year. Vermin have entirely disappeared as a result of a long spell of dry weather, and bounteous showers have given new impetus to the growth of the vines." A recent dispatch from Portland says: Indications are that the Oregon hop crop will amount to about 90,000 bales. The season has been unfavorable, the long dry spell which occurred last month very nearly causing a failure. The quality of the hops is exceptionally good, however, and there has been such an absence of lice, owing to the warm weather, that many growers have found little or no necessity for spraying. Good prices seem to be assured, several growers reporting offers by the brokers to contract at 20c. Latest Eastern advices report the market there firm.

California, good to choice, 1903 crop	23 @27½

Wool.

Not much doing here in the way of transfers from first hands, due to absence of offerings of consequence and not to lack of demand. Eastern and foreign markets are strong, with prospects of so continuing for some time to come. Choice lots would readily command in this market an advance on quotations. In fact, some ordinary wools have been recently placed here at stiffer prices than any local buyer will quote for similar stock.

SPRING.

Northern, free	22 @—
Northern, defective	17 @20
Middle Counties, free	18 @21
Middle Counties, defective	15 @17
Southern, 12 months	— @—
Southern, 7 months	— @—
Spring Lamb, Northern	15 @17
Spring Lamb, Southern	12 @14
Oregon, good to choice	20 @22
Nevada	14 @20

Hay and Straw.

There are tolerably heavy receipts of hay by rail, but not much arriving by water. The demand is not up to the average for this time of year, and for other than strictly choice to select the market lacks firmness. High-grade Wheat hay is receiving the most attention. Straw is not in heavy supply and is bringing in a limited way comparatively good figures.

Wheat, good to choice	$11 50 @ 13 00
Wheat and Oat	9 50 @ 11 00
Tame Oat, fair to choice	8 50 @ 11 00
Wild Oat	7 50 @ 8 50
Barley	7 00 @ 9 00
Alfalfa	9 00 @ 11 00
Compressed	10 00 @ 13 00
Straw, ℔ bale	50 @ 75

Millstuffs.

Bran is tending downward and is offering to arrive at lower figures than are now current on spot stock. Middlings are in moderate supply and values for same are barely steady. Previously quoted prices on Rolled Barley continue in force. Milled Corn is in limited stock and is being firmly held.

Bran, ℔ ton	$20 50 @ 21 50
Middlings	25 00 @ 28 00
Shorts, Oregon	21 50 @ 22 50
Barley, Rolled	21 50 @ 22 50
Cornmeal	31 00 @ 31 50
Cracked Corn	31 50 @ 32 00
Oilcake Meal	31 50 @ 33 00

Seeds.

Little doing in Alfalfa, stocks and demand being both light. Recent arrivals of Flaxseed from Washington are meeting with a firm market. Yellow Mustard is in fair request, but at no material improvement on the values lately quoted. Trieste Mustard is practically out of stock. Market for most kinds of bird seeds, especially Canary, is firm at the quotations.

	Per ctl.
Alfalfa, Cal., good to choice	$14 00 @16 00
Flax	1 75 @ 2 35
Mustard, Yellow	2 75 @ 3 25
Mustard, Trieste	4 25 @ 4 50
	Per lb.
Canary	6¼@ 7
Rape	1¾@ 2½
Hemp	3½@—
Timothy	5 @ 5½

Honey.

The market remains quiet and quotable values are without appreciable change. Offerings are principally of amber grades, while the inquiry on local account is mainly for white honey. There are no evidences of any shipping orders of consequence being on the market at present.

Extracted, White Liquid	5½@ 6
Extracted, Light Amber	5 @ 5½
Extracted, Amber	4 @ 4½
Extracted, Dark Amber	3½@ 3¾
White Comb, 1-frames	12½@13
Amber Comb	9 @11

Beeswax.

There is good demand and market is firm at current values. There have been some recent arrivals from Mexico, the product of wild bees.

Good to choice, light ℔ lb	28 @30
Dark	26 @27½

Live Stock and Meats.

Market for prime to choice Beef is moderately firm at quotably unchanged figures, but common qualities are not sought after. Large Veal is without quotable improvement, selling at lower figures than No. 1 Beef. Small Veal in prime condition is bringing tolerably good figures. Mutton and Lamb are in liberal supply, as compared with immediate demand, and market is without special firmness. Medium size and large Hogs are in fair request, with receipts only moderate, and values are steady at the quoted range. Small Hogs in light demand.

Allowing for the shrinkage of about 50%, which is exacted in buying cattle on the hoof, live cattle command as much or more per pound than dressed beef, the shrinkage exacted being the slaughterers' profit.

The following quotations for beef and mutton are based on prices realized by slaughterers from wholesale dealers:

Beef, 1st quality, dressed, net ℔ lb	6½@—
Beef, 2nd quality	5½@—
Beef, 3rd quality	4 @ 5
Mutton—ewes, 6½@7c; wethers	7½@—
Hogs, hard grain, 140 to 200 lbs	4¾@—
Hogs, large, hard, over 200 pounds	4¾@ 4⅝
Hogs, small, fat	4½@—
Veal, large, ℔ lb	5 @ 6
Veal, small, ℔ lb	8 @ 9
Lamb, spring, ℔ lb	9 @ 9½

Hides, Skins and Tallow.

Offerings of Hides in prime condition are meeting as a rule with prompt custom at full current figures. Pelts are in moderate request at quotably unchanged values. Tallow market is ruling quiet at same prices last noted.

Nothing but select hides, clean and trimmed will bring full figures. Culls of all kinds, either from grubs, cuts, hair slips, side brands or murrain, are not always readily placed at the lower figures.

	Sound.	Culls.
Heavy Steers, over 56 lbs	— @ 9½	— @ 8
Medium Steers, 48 to 56 lbs	— @ 8½	— @ 7½
Light Steers, under 48 lbs	— @ 8	— @ 7
Heavy Cow Hides, over 50 lbs	— @ 8	— @ 7
Light Cow Hides, under 50 lbs	— @ 8	— @ 7
Stags	— @ 6	— @ 5
Wet Salted Kip	— @ 9	— @ 8
Wet Salted Veal	— @10	— @ 9
Wet Salted Calf	— @11	— @10
Dry Hides	— @16	— @15
Dry Kip and Veal, 11 to 16 lbs	— @13	— @12
Dry Calf, under 4 lbs	— @18	— @16
Pelts, long wool, ℔ skin	1 00@1 50	
Pelts, medium, ℔ skin	70@ 90	
Pelts, short wool, ℔ skin	40@ 65	
Pelts, shearling, ℔ skin	15@ 30	
Horse Hides, salted, large prime, each	2 75@—	
Horse Hides, salted, medium	2 25@2 50	
Horse Hides, salted, small	2 00@—	
Horse Hides, dry, large	1 75@—	
Horse Hides, dry, medium	1 50@—	
Horse Hides, dry, small	1 00@—	
Tallow, good quality	4 @4½	
Tallow, poorer grades	2½@3½	

Bags and Bagging.

The Grain Bag market is not showing much life. Prices continue at a low range. A large quantity of San Quentin bags remains undisposed of.

Bean Bags	4¼@5
Fruit Sacks, cotton	6¾@6¾
Fruit Sacks, jute, as to quality	5¾@7
Grain Bags, Calcutta, 22x36, spot	5⅜@5¾
Grain Bags, San Quentin, ℔ 100	5 40 @—
Wool Sacks, 4-lb	32 @—
Wool Sacks, 3½-lb	30 @—

Poultry.

While there were no pronounced changes in quotable values, the market as a whole showed slightly improved condition, with no particularly heavy arrivals of either domestic or Eastern poultry. The demand was mainly for Chickens, large and fat stock meeting with most competition from buyers. Large and fat Young Ducks and Goslings in first-class condition sold fairly well. There was scarcely any inquiry for Turkeys. Market for Pigeons continued quiet and prices unimproved.

Turkeys, live gobblers, ℔ lb	$ 15 @ 17
Turkeys, live hens ℔ lb	14 @ 15
Hens, California, ℔ dozen	4 50 @ 5 00
Hens, large	5 50 @ 6 00
Roosters, old	4 50 @ 5 00
Roosters, young (full-grown)	7 00 @ 7 50
Fryers	4 50 @ 5 50
Broilers, large	3 00 @ 4 00
Broilers, small to medium	2 50 @ 3 00
Ducks, old, ℔ dozen	4 00 @ 5 00
Ducks, young, ℔ dozen	4 50 @ 5 50
Geese, ℔ pair	1 25 @ 1 50
Goslings, ℔ pair	1 50 @ 1 75
Pigeons, old, ℔ dozen	1 25 @ 1 50
Pigeons, young	1 25 @ 1 50

Butter.

The supply of creamery squares held at top figures has continued in excess of the demand, and market has presented an easy tone. Medium grades of fresh cleaned up fairly well at the lower rate of values current on this description. Stocks in cold storage are estimated at 4,000,000 lbs., including 500,000 lbs. carried over from last season and 1,500,000 lbs. Eastern creamery and ladles.

Creamery, extras, ℔ lb	21 @—
Creamery, firsts	20 @—
Creamery, seconds	19½@—
Dairy, select	20 @—
Dairy, firsts	19½@—
Dairy, seconds	17½@18½
Cold storage	— @—
Mixed Store	13½@14

Cheese.

Market is showing steadiness for domestic flats, with supplies only moderate and demand fully up to the average for this time of year. Stocks of Young Americas are light, and this description is commanding in a small way very good prices.

California, fancy flat, new	9½@10
California, good to choice	9 @ 9½
California, fair to good	8½@ 9
California, "Young Americas"	10 @11
Eastern	10 @13

Eggs.

Choice to select fresh are in light receipt and in fair request, selling at about same figures as previous week. For faulty stock the market is slow and weak. Irregular sizes and mixed colors are not sought after by the best trade, and these have to come into competition with Eastern stock.

California, select, large, white and fresh	26 @27½
California, select, irregular color & size	23 @25
California, good to choice store	19 @21
Eastern firsts	20 @22
Eastern seconds	17 @19

Vegetables.

Asparagus was on market, but hardly in sufficient quantity to warrant quoting; for common to fair quality 2@3½c was asked. String and Wax Beans met with slow sale, being mostly of rather ordinary quality. Tomatoes were in materially increased receipt and prices suffered a sharp decline. Onion market was slightly easier for Yellow, but Red were scarce,

the season for latter being practically ended.

Beans, Lima, ₱ lb	5	@	7
Beans, String, ₱ lb	1½	@	3
Beans, Wax, ₱ lb	1½	@	3
Cabbage, choice garden, ₱ 100 lbs	1 00	@	1 25
Corn, Green, ₱ crate	1 00	@	1 50
Cucumbers, ₱ large box	25	@	50
Egg Plant, ₱ box	50	@	75
Garlic, new, ₱ lb	3	@	4
Marrowfat Squash, ₱ ton	20 00	@	——
Okra, Green, ₱ box	50	@	1 00
Onions, Yellow Danver, ₱ ctl	1 60	@	1 75
Peas, sweet garden, ₱ lb	2	@	3
Peppers, Green, ₱ box	40	@	75
Rhubarb, ₱ box	50	@	75
Summer Squash, ₱ box	25	@	50
Tomatoes, ₱ small box	25	@	40
Tomatoes, large box	40	@	75

NOTE.—Large boxes are what are known to the trade as "pay boxes," which have to be returned or paid for. They are open top, with hand holes in the ends, and weigh when filled from 50@60 lbs gross. Small boxes are free boxes, about the same as the regular fruit box, weighing when full from 20 to 30 lbs. gross.

Potatoes.

There were tolerably free receipts of potatoes, with demand not particularly brisk, and market was less favorable to the selling interest than at any previous date since the opening of the current season. Sweet potatoes were in moderate supply from Coachella valley and were offered at 5@8c per pound, as to size and quantity.

Salinas Burbanks, ₱ cental	1 35	@	1 75
Potatoes, white, ₱ cental	1 00	@	1 50
Early Rose, ₱ cental	1 00	@	1 15
Garnet Chile	1 00	@	1 15

Fresh Fruits.

Apples were in fairly liberal receipt for this time of year, but offerings were mostly of rather common quality, and for other than choice the market inclined against sellers. Good to choice Apricots were favored with a firm market, and more of this sort than were received could have been readily placed. Peaches arrived rather freely, and for the general run of offerings the market presented an easy tone; strictly choice sold well. Bartlett Pears were in good supply, especially other than choice to fancy, and ordinary stock went in the main at rather low figures. Plums of the different varieties now in season made a good display, with demand only fair, and prices averaged somewhat lower than preceding week. Grapes arrived in considerable quantity, but it was the exception where they were sufficiently choice to be sought after by the best trade. Figs were in light receipt and choice sold to good advantage. Melons were in good supply and prices favored the consumer. Prices for Berries of the different kinds in season remained close to figures of previous week.

Apples, Gravenstein, ₱ 50-box	1 15	@	1 25
Apples, good to choice, 50-lb. box	75	@	1 00
Apricots, ₱ crate	50	@	90
Apricots, ₱ ton	30 00	@	50 00
Blackberries, ₱ chest	2 50	@	4 00
Cantaloupes, & crate	1 00	@	2 00
Crabapples, ₱ box	50	@	75
Figs, small box, $1@2; drawer	40	@	60
Grapes, Black, ₱ crate	75	@	1 00
Grapes, Seedless, ₱ crate	50	@	1 25
Huckleberries, ₱ lb	8	@	10
Loganberries, ₱ chest	4 00	@	5 00
Nutmeg Melons, ₱ box	75	@	1 25
Peaches, ₱ large box	75	@	1 25
Peaches, ₱ small box	30	@	65
Pears, No. 1 Bartlett, ₱ 40-lb box	75	@	1 00
Pears, Bartlett, No. 2, ₱ box	35	@	50
Pears, Bartlett, No. 1, ₱ ton	30 00	@	35 00
Pears, other varieties, small box	30	@	60
Plums, Large, ₱ box	35	@	65
Plums, in bulk, ₱ ton	20 00	@	25 00
Prunes, Tragedy, ₱ box	40	@	60
Raspberries, ₱ chest	4 00	@	8 00
Strawberries, Longworth, ₱ chest	4 00	@	7 00
Strawberries, large, ₱ chest	2 50	@	5 00
Watermelons, ₱ doz	50	@	3 00

Dried Fruits.

The market for cured and evaporated fruits shows much the same general condition as a week ago. Prices on good to choice Apricots continue to be well maintained at previously quoted range. There is a large proportion of small Apricots this season. For this sort the market is not firm, as the fruit will have to go into competition with cheap stock of other kinds, having to depend for custom on a class of consumers who look almost wholly to price or, in other words, are in quest of the cheapest food obtainable. Apples are in very light stock and early deliveries are bringing very good prices, quality considered. The peach market is showing steadiness, present quotations being based on prices for prompt August-September shipments. Whether late deliveries will meet with an equally favorable market remains to be determined. Prices now quoted for Pears are also for prompt shipment, September-October, and are largely nominal at this date. That choice to select Pears, halves, will meet with a good market is altogether probable. In new crop Plums nothing of consequence has yet been done and values are undefined. Prune market is quiet. Dealers are quoting future deliveries at 2c. bag basis for Santa Claras. only 15 per cent. large, latter not being obtainable in greater proportion under 2¼c. basis. The steamer Umatilla for British Columbia took 13,000 lbs. dried fruit, exclusive of 6,000 lbs. of Raisins. In the shipment were 6,600 lbs. Prunes and 3,100 lbs. Apricots. The steamer Queen, sailing for British Columbia on 24th inst., carried 30,827 lbs. dried fruit, including 27,375 lbs. Prunes and 2,500 lbs. Peaches for Winnipeg.

EVAPORATED OR BLEACHED.

Apples, 50-lb boxes, rings, pressed, good to choice	5½@ 6
Apples, extra choice to fancy, 50-lb boxes	6½@ 7½
Apricots, Moorpark	9 @11
Apricots, Royal, good to choice, ₱ lb	7½@ 8
Apricots, Royal, fancy	9 @10
Figs, 10-lb box, 1-lb cartons	50 @65
Peaches, unpeeled, choice	5¾@ 6¼
Peaches, unpeeled, fancy	7 @ 7½
Plums, Black, pitted	4½@ 5
Plums, Yellow, pitted	5 @ 7
Prunes, Silver, good to fancy	2½@ 5
Prunes, in bags, 4 sizes, 1¾@2c; 40-50s, 3½@3¾c; 50-60s, 3@3¼c; 60-70s, 2½@2¾c; 70-80s, 2@2¼c; 80-90s, 1⅝@1⅞c; 90-100s, 1⅜@1⅝c; small, ⅝@1c.	

COMMON SUN-DRIED.

Apples, sliced	3½@ 4½
Apples, quartered	3½@ 4½
Figs, White, in bulk	2½@ 3½
Figs, Black	3 @ 4

Raisins.

Market is unsettled. Packers are quoting prices independently at less than Association rates, the reduction ranging from ¼c. to 1c., as to kind and grade.

Following are current quotations for raisins as announced by the Growers' Association of Fresno for crop of 1903, f. o. h. at Fresno, subject to change without notice:

Standard Grades—	50-lb. cases, Per lb.
2-Crown Loose Muscatels	4 c
3-Crown Loose Muscatels	4¼c
4-Crown Loose Muscatels	—c
Seedless Loose Muscatels	3¼c
Seedless Floated	3½c
2-Crown Malaga Loose	3¾c
3-Crown Malaga Loose	4 c
Seedless Sultanas, Unbleached	3½c
Seedless Thompson's, Unbleached	—c

SEEDED.

Fancy 16-oz. Cartons, ₱ lb	5½c
Fancy 12-oz. Cartons, ₱ pkg	4½c
Fancy Bulk Cartons, ₱ lb	5¼c
Choice, 16-oz. Cartons, ₱ lb	5¼c
Choice, 12-oz. Cartons, ₱ pkg	4¾c
Choice, Bulk Cartons, ₱ lb	5 c

Citrus Fruits.

Oranges are in light supply, and are also in light demand, owing to abundance of other and more seasonable fruits. Lemons are being held at quotably unchanged values, with fair movement, and stocks more than ample for immediate needs. Limes are in good supply and prices unchanged.

Oranges, Valencias, ₱ box	1 50	@	2 50
Lemons, California, select, ₱ box	2 50	@	——
Lemons, California, good to choice	1 75	@	2 25
Lemons, California, fair to good	1 25	@	1 75
Grape Fruit, ₱ box	1 25	@	2 50
Limes, Mexican, ₱ box	4 00	@	4 50

Nuts.

The Almond market is firm, with prospects of so continuing the current season, owing to light crop. The Sutter county Almond growers have contracted this season's crop at following prices: Nonpareils, 13c; I. X. L., 11.6c; Ne Plus Ultras, 11.1c; Drake Seedlings, 9.8c; Languedocs, 9.3c; Golden State, 9.1c; Routiers, 9.6c; La Primas, 11.1c; Llewellings, 9.85c. No Walnuts on market. Peanuts unchanged.

California Almonds, shelled	17 @20
California Almonds, paper shell	12 @13½
California Almonds, soft shell	9½@11½
California Almonds, hard shell	6 @ 7
Peanuts, fair to prime	4½@ 5½

Wine.

The wholesale market for dry wines had developed no quotable changes since last report, the range being 15@17c. per gallon for last year's vintage, but wholesale transfers are difficult to effect at any marked advance on inside figure. Sweet wines of 1903 are held at 30c. per gallon, delivered at wineries. The range of prices on this season's dry wine grapes will probably be $12@17 per ton, as to variety and locality. Five year contracts at $16 are reported in the Gilroy section for all desirable varieties, a new winery being established there. Receipts of wine at San Francisco last week were 254,615 gallons, and for previous week were 279,800 gallons. The steamer Peru, sailing July 23, carried 75,067 gallons and 58 cases, including 73,514 gallons and 28 cases for New York.

Foreign Almond Market.

The almond crop in the provinces of Catania and Syracuse will be about an average one; in the province of Caltanissetta frost and storms did considerable damage and the crop will not be more than one-half the usual yield.

For the three provinces, this consular district, the total yield will be about 45,000 bags of 100 kilos (220.4 pounds), shelled. Present prices in lira (19.3 cents) per 100 kilos (220.4 pounds), shelled, f.o.b. Catania.

	Prompt. Lira.	Sept. and Oct. Lira.
Palma, Girgenti	152.50	169
Palma, genuine	156.00	173
Aderno	——	174
Catania, selected	168.00	177
Avola, selected	——	196
Avola, current	169.50	177

Freight to New York, 24s ($5.83) per metric ton (2204 pounds).

ALEX. HEINGARTUEO, Consul.
Catania, June 10.

Produce Receipts.

Receipts and exports of leading cereals and other California products for the past week and for the season to date, as compared with the corresponding time the previous year, are as follows:

FOR THE WEEK.	Since July 1, 1904.	Same time last year.
Flour, ¼ sks	139,818	326,308	312,007
Wheat, ctls	22,967	43,492	74,341
Barley, ctls	57,439	125,023	191,046
Oats, ctls	14,899	37,955	41,970
Corn, ctls	1,106	3,398	4,739
Rye, ctls	1,663	2,248	3,990
Beans, sks	2,240	7,755	6,993
Potatoes, sks	22,938	63,015	73,378
Onions, sks	2,001	7,133	13,035
Hay, tons	5,798	12,760	14,005
Wool, hales	1,019	2,580	3,516
Hops, hales	10	60	418

EXPORTS BY SEA.

FOR THE WEEK.	Since July 1, 1904.	Same time last year.
Flour, ¼ sk	88,700	242,852	142,232
Wheat, ctls	660	1,517	13,883
Barley, ctls	8,601	23,308	67,723
Oats, ctls	434	790	1,510
Corn, ctls	246	727	1,045
Beans, sks	905	1,412	1,503
Hay, bales	632	4,759	9,595
Wool, lbs	....	225,977	205,248
Hops, lbs	500	3,012	15,779
Honey, cases	48	69	27
Potatoes, pkgs	3,343	5,362	6,591

New Patents.

DEWEY, STRONG & CO.'S SCIENTIFIC PRESS PATENT AGENCY, 330 Market St., S. F., has official reports of the following U. S. patents issued to Pacific coast inventors:

FOR THE WEEK ENDING JULY 12, 1904.

764,971.—LEATHER DRESSING—A. Aagaard, Everett, Wash.
764,701.—BOOK LEAF—H. W. Ayers, Los Angeles, Cal.
764,836.—ELECTRIC SWITCH—W. J. Bell, Los Angeles, Cal.
764,708.—OIL BURNER—I. Carl, Los Angeles, Cal.
764,709.—RESPIRATORY APPARATUS — Chapin & Sherman, Berkeley, Cal.
764,560.—SHINGLE MACHINE—F. A. Cloudy, Startup, Wash.
764,714.—SAFETY HOLDER—Mary A. Davis, Los Angeles, Cal.
765,071.—GAS GENERATOR—Eichler & Becker, S. F.
764,567.—ENDLESS CHAIN SICKLE—H. S. Ekel, Stockton, Cal.
765,074.—LEMON SQUEEZER—W. H. Gregory, Vallejo, Cal.
765,014.—SKIRT PIN—Mary E. Kintz, Tacoma, Wash.
765,084.—DENTAL MATRIX—S. E. Knowles, S. F.
764,739.—CARPET RENOVATOR—W. H. Loomis, Alameda, Cal.
764,856.—ELECTRIC RAILWAY—T. Mahoney, S. F.
764,858.—SAW SET—J. S. Mason, Santa Ana, Cal.
765,027.—OIL BURNER—R. Matheson, San Diego, Cal.
764,751.—GARMENT HOLDER — T. J. Murphy, Needles, Cal.
764,674.—ELECTRIC HEATER — L. B. Pemberton, Redondo, Cal.
764,624.—BORING MACHINE—Pfluger & Christensen, Portland, Or.
764,957.—PENDULUM POWER—A. T. Prather, Douglas, Ariz.
764,958.—PROPELLER—J. W. Raine, Seattle, Wash.
764,865.—FOLDING TRESTLE—W. G. Read, Davisville, Cal.
764,866.—FOLDING TRESTLE—W. G. Read, Davisville, Cal.
764,959.—BOTTLE—G. G. Ross, Hazel, Wash.
764,870.—ROTARY AGITATOR—J. Smith, S. F.
765,155.—CAN OPENER—H. W. Thurlow, S. F.
764,646.—AUTOMOBILE—C. W. Van Winkle, S. F.
765,117.—BOTTLE—P. J. Wilson, Ben Lomond, Cal.
764,654.—BOX—A. W. Wright, Pomona, Cal.



PATENTS.

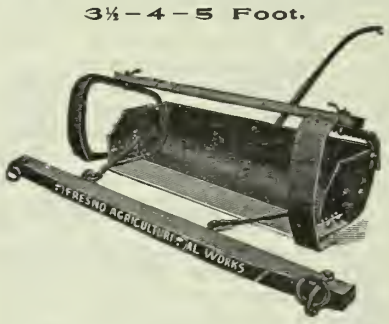
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83 - ACRES - 83

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THE IRRIGATOR.

Irrigation for the Indians of Gila Valley.

The underground waters of Gila valley, Arizona, have been recently investigated by W. T. Lee of the United States Geological Survey. The object of the investigation was to ascertain the amount of water available for irrigating the lands of the Indians in this valley. The greater part of the valley is included in the Pima Indian Reservation, on which there are about 7870 Indians. They are an intelligent, industrious people, and until 1890 they were prosperous. From time immemorial their irrigation canals had been supplied with water from the Gila, but since 1890 the diversion of the Gila waters above the reservation by white settlers has caused a shortage of water. The result is that the area of lands cultivated by the Indians has decreased from 14,000 to 7000 acres, and the Pimas and Maricopas of this valley are now impoverished.

To find a remedy for this shortage of surface waters Mr. Lee has carefully studied the geographic relations and geologic conditions of the Gila valley. He finds evidence that there is an amount of underground water in this region sufficient to saturate the valley soil and still give an overflow of 2000 inches. This water is probably due to the junction of three underflows—those of Gila, Santa Cruz and Salt rivers. These are fed from at least three sources—rainfall in the valley, springs from the hillsides and various streams that enter the valley from the hills—the most important of which is the Gila itself. The quantity of waters held in the gravels at any one time within easy reach of pumps is estimated at from 1,120,000 to 1,960,000 acre-feet. It is calculated that 40,000 acre-feet of water a year will supply all the present needs of the Indians on the reservation. If the computations are correct, there is now accessible enough water to supply the Indians for at least twenty-eight years. The chemical character of these waters of the underflow is fortunately favorable to their use in irrigation.

Two means of making this water available for irrigation are in use—seepage ditches and pumping plants. Where seepage ditches have been tried the results are disappointing. The quantity of water actually obtained falls far short of expectations; the cost of constructing and maintaining a deep ditch in the loose gravels and quicksands is large compared with the amount of water obtained, and at best only the uppermost part of the underflow is penetrated. On the other hand, Mr. Lee believes that sufficient water can be drawn from the underflow of the Gila valley by means of pumping to supply the needs of the Indians and also materially to extend the cultivated area without exhausting the available supply. He estimates that ten plants of a capacity similar to that of the one now under construction at Sacaton will supply the required 40,000 acre-feet a year and allow 36% of the time for stoppage and repairs. Taking the cost of the pumping plants in the Salt River valley as a criterion, Mr. Lee shows that money spent in the construction of such plants will be safely and profitably invested.

One of the most interesting chapters of Mr. Lee's paper is that on the economic conditions of the Indians. Though peaceful, honest and industrious, they are lacking in executive ability. They are, however, easily managed and are prosperous when wisely directed. When left to their own devices, they do not properly appreciate or utilize their advantages. At the western half of the reservation their most imperative need is adequate supervision. Their needs at the eastern half are, first, a water supply and, second, supervision. It is Mr. Lee's opinion that a water supply without supervision would be unwise.

Mr. Lee's report is published as Water Supply and Irrigation Paper No. 104 of the Survey's series. It may be obtained free of charge on application to the Director of the United States Geological Survey, Washington, D. C.

National Irrigation Congress.

It is announced from El Paso, Texas, that Chairman Jas. Charlton of the Trans-continental Passenger Association, whose headquarters are at Chicago, has given notice to the officers of the Southwestern Irrigation Congress of an extremely low rate offered by the lines under his jurisdiction for the benefit of those desiring to attend the National Irrigation Convention, which meets at El Paso next November.

A rate of one fare for the round trip to El Paso is offered by all lines west of the Mississippi river, with an extension provision of thirty days. The dates of sale are November 10, 11 and 12.

In addition to this concession from the western roads, the Irrigation Association has also obtained unusually low rates from the Mexican and territorial railways, not only for the benefit of visitors, but for those wishing to take side trips to the City of Mexico or other points of interest during or immediately after the convention.





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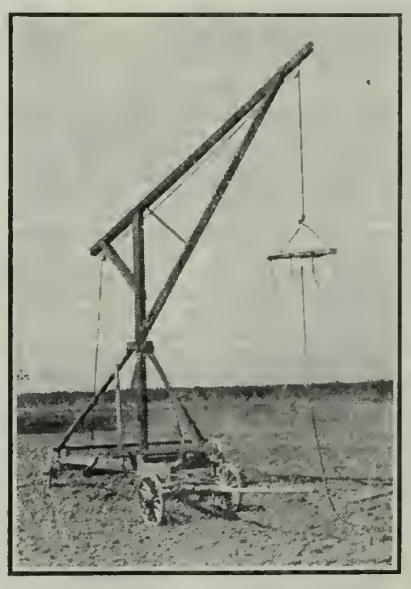
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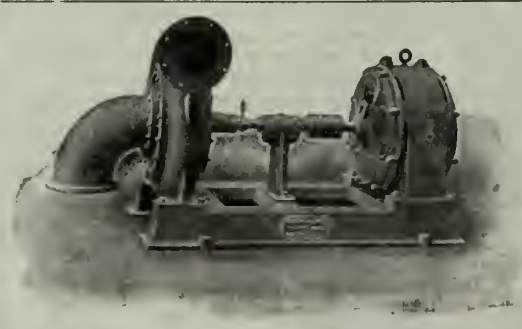
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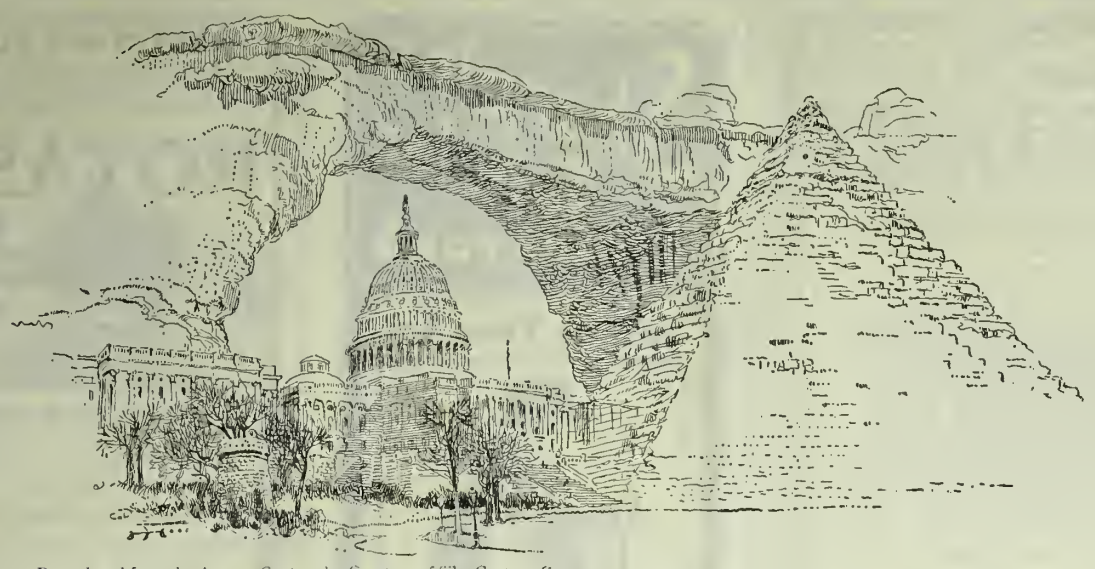
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THE AUGUSTA NATURAL BRIDGE IN UTAH, COMPARED WITH THE CAPITOL AT WASHINGTON AND THE GREAT PYRAMID.

THERE exist to-day in San Juan county, Utah, three wonderful natural bridges. The largest of these bridges spans a canyon 335 feet 7 inches from wall to wall, and is a splendid arch of solid sandstone, 60 feet thick in the central part and 40 feet wide. Underneath it there is a clear opening 357 feet in perpendicular height. The accompanying cut, reproduced from the August Century, shows the dimensions of this bridge as compared with the Capitol at Washington and the Great Pyramid. The other two bridges, while of proportions somewhat less massive, are marvels of wonder and beauty. They have been seen, probably, by fewer than a dozen white men. The August Century contains W. W. Dyar's account of a visit made to these natural wonders in 1903 by Horace J. Long and a cattleman named Scorup, with pictures of the colossal bridges, one in color, from drawings by Harry Fenn from photos by Mr. Long.

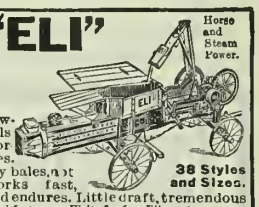
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FRUIT MARKETING.

Great Expansion of the Foreign Fruit Trade.

A report has just been issued by the Department of Commerce and Labor in Washington giving statistics of interest and value to all merchants regarding fruits and nuts imported and exported by this country from 1884 to 1904, which is summarized by the Fruit Trade Journal. The figures show that the importations were practically $20,000,000 in value in 1884, and will in 1904 be about $22,000,000, while the exports, which were $1,746,418 in 1884, will be about $20,500,000 in 1904. The exports of fruit alone from the United States in the fiscal year 1904 will exceed $20,000,000, against less than $3,000,000 in 1894, and less than $2,000,000 in 1884.

Apples, oranges, apricots, prunes and raisins form the principal items in the exports of fruits. The value of the apple exportations in 1904 will amount to about $8,500,000 out of the $20,500,000 worth of fruits exported, and of the $8,500,000 worth of apples exported about $5,500,000 worth was exported in the natural state, and $3,000,000 worth as dried fruit.

The exportation of prunes from the United States has grown very rapidly in recent years, the total number of pounds exported in 1898, the first year in which a record was made by the Bureau of Statistics, being, in round terms, 16,000,000: in 1902, 23,000,000; in 1903, 66,000,000, and in 1904 will amount to about 74,000,000, valued at about $3,500,000. Germany, France and the United Kingdom are the principal customers for this class of American fruit, the total quantity sent to Germany in the fiscal year 1903 being 18,500,000 pounds; France, 16,000,000, and the United Kingdom 15,000,000, while Belgium took nearly 5,000,000 pounds, the Netherlands nearly 4,000,000 and Canada about 4,500,000. Of the 66,000,000 pounds of prunes exported in 1903, 9,000,000 went from San Francisco, and 53,500,000 from New York, although they are chiefly the product of the Pacific coast.

Raisins are also becoming an important feature of the export trade in fruits, the total number of pounds of raisins exported in 1903 being 4,250,000, while for the year just ended the total will be about 4,000,000 pounds. Canada is our largest foreign customer for this product, the total amount exported to Canada last year being over 3,000,000 pounds. The principal port of shipment was San Francisco, from which about 1,500,000 pounds were sent; from Detroit, 750,000 pounds; from the district of North and South Dakota, 500,000 pounds, and from New York, 250,000 pounds. These shipments from the Eastern ports originate, of course, on the Pacific coast. Of apricots, the total exports of which amounted last year to over 9,000,000 pounds, 6,750,000 pounds were exported from New York and about 2,000,000 pounds from San Francisco.

IMPORTS.—The imports of fruits and nuts have, as already indicated, changed but little in total value, but in character there has been a material change during the last decade. Oranges, of which the total importations amounted to over $2,500,000 in 1896, will amount in 1904 to but little over $500,000 in value of imports. Lemons, which amounted to over $5,000,000 in 1895, will amount to a little over $3,000,000 value in the importations of 1904. The bulk of the lemons come from Italy, and of oranges chiefly from the British West Indies. Bananas form by far the largest single item in the importations of fruits and nuts, and will aggregate over $7,000,000 in the fiscal year 1904, against $4,500,000 in 1898. They come chiefly from Central America, Cuba and the British West Indies.

The table which follows shows the total value of fruits and nuts imported and exported in each fiscal year from 1884 to 1904:

	Imports.	Exports.
1884	$19,812,106	$1,751,037
1885	16,705,574	3,516,187
1886	17,318,259	3,300,075
1887	20,608,486	2,609,965
1888	20,502,223	3,510,208
1889	18,746,417	5,071,584
1890	20,746,471	4,059,547
1891	25,983,136	2,434,793
1892	20,943,906	6,626,145
1893	23,687,422	3,918,799
1894	18,754,771	2,424,239
1895	17,239,923	4,971,791
1896	19,032,432	5,679,066
1897	17,126,932	7,739,305
1898	14,566,950	9,013,310
1899	18,314,206	7,897,485
1900	19,263,592	11,642,662
1901	19,586,703	10,826,651
1902	21,480,525	8,719,344
1903	23,726,636	18,057,677
1904 (eleven months)	21,858,635	20,186,649



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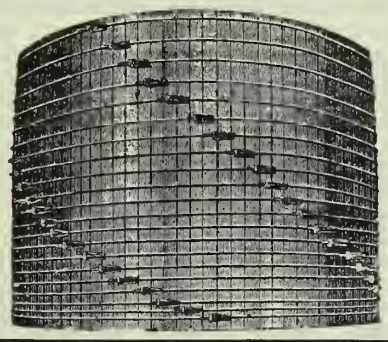
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THE APIARY.

California Bee Keeping for Women.

In the June number of Good Housekeeping is an article entitled "Honey," written by Miss Flora McIntyre, the daughter of the well-known California apiarist, J. F. McIntyre of Ventura county, the man who, according to the American Bee Journal, has a larger number of colonies in one apiary than perhaps any one else in the world. Miss McIntyre is a practical bee keeper, and her father speaks with pride of the tons of honey she extracted last summer. As we might expect, coming from such a source, the article is well written. The illustrations are also good. She has a word to say about bee keeping for women, and closes with a very pretty picture of the sunny side of bee keeping in the wilds of California.

Here are the closing words of her article:

I must say a word about the desirability of bee keeping as an occupation for women. Its possibility is a settled fact; for many women have worked at it successfully. My father employed a girl last year at our out-apiary and said that her work was more satisfactory than that of any of his hired men. It is out-of-door work, and therefore peculiarly healthful. I know, for I have tried it. After the day's work in the warm sun is over, there is nothing to do but enjoy one's self. Bees retire early, and it is not well to disturb them after sundown. Then, when the canyon is in shadow, when the air is still, sweet-scented and refreshingly cool, when no sound is heard but the hum of late-returning bees and the rush of water in the creek, the bee keeper saddles his pony and gallops down to the postoffice; or, if he chooses, rides up the canyon. There, where the road passes between the oak tree and the sycamore, where the mountain rises on one side and the creek flows along on the other, almost hidden by the trees which line its bank, the shades of green in the blackberry vines and the poison oak are exquisite. He rides on and on, without a care, until the shadow reaches that long ledge of rock on yonder mountain to the east, then he turns homeward, for, when the sunlight leaves, the darkness comes quickly.

On warm summer mornings there is the "dip" in the swimming pool below the barn, or for the angler the rod and line, some bait, and, presto, some brook trout for breakfast, for they bite well early in the morning.

Sometimes on warm summer days, when the bees do not need one's attention, there is time for a long afternoon in the shaded hammock with a hook, or with the dreams of the lovely country home which the golden honey will some day build, as beautiful and picturesque as that of any actress; of the music books and art with which it will be filled; of fine horses in its stable; of the friends who will gather to enjoy it all—all this to be some day when the bee keeper is rich enough. With sufficient judgment, hard work and "bee sense" this dream may be made a reality.

With the end of August, the bees in readiness for the winter, the bee keeper may go to the city, if he likes.

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330 Market St., San Francisco, Cal.
AND
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Bright's Disease and Diabetes News.

1737 Broadway, San Francisco.
March 3, 1904.

To the church women of California:

It is so hard for people to believe that Bright's Disease and Diabetes are now curable that I am asked to permit reference to my own case. I shrink from it, but there are too many dying to remain silent. To be brief, I had both Bright's Disease and Diabetes for over five years. Usual Dropsy, nails came off, and the case was so hopeless that the physicians told us there was no need to diet and to give me anything I craved. I heard that people were being cured in this city and procured the treatment. In a few months the nails came back, dropsy disappeared and in a year I was well. To show how well, will say that several years after my recovery I stood a capital operation at the Waldeck Sanitarium in the presence of six physicians. Many friends, including Dr. Markell of Cloverdale and Judge E. B. Cutler of Pine street, are fully cognizant of my recovery from Bright's Disease and Diabetes. In fact, Judge Cutler is himself now recovering from Diabetes under the same treatment. Let the cure be proclaimed to the world. MRS. S. E. CLINE.

The above refers to the newly discovered Fulton Compounds, the first cures the world has ever seen for Bright's Disease and Diabetes. Send for pamphlet to Jno. J. Fulton Co., 407 Washington street, San Francisco.

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"The Evolution of Climates."

This is the title of a recent publication by Dr. Marsden Manson of San Francisco. This considerable contribution to what may be called the cosmic evolution of the physical world constitutes an advanced study of a branch of science that has long engaged the attention of the author, or, in other words, is an extension of several previous essays of his on corelated subjects that need not be enumerated at this time. The habit of mind that enables an investigator to delve beneath the crust and search for primary causes as well as to consider current phenomena may be called the "engineering habit," and to this fact we can attribute in the present case a careful and sequential treatment of the extensive and obscure causes and conditions that have evolved what we call climate, or to give it a broader term, the physical conditions of human environment—because climate is the ruling physical factor in our existence. Mankind exists in a narrow range of natural temperature (100° or so), but can by agencies at his control produce temperatures varying, plus and minus, fifty times as much, and such enormous changes even have a part in the industrial arts of our age. Such phenomena being therefore of an engineering nature naturally leads up to thought and investigation in the line of the present treatise. The subject lies so wholly outside of what may be called popular science, or even accepted science, that a review or criticism of the learned author's views can have no proper place in a notice such as can be given where the principal interest will center in the fact of the extended evidences of glacial action and other peculiar features afforded by the physical phenomena of the Pacific coast. Among these phenomena, those that can be especially seen and appreciated are the effects of scouring glacial action and fossiliferous remains disclosed to a considerable extent by mining exploration and also by certain active and observable or even measurable changes that indicate beyond doubt remote but unmistakable conditions. We mean the recession of glaciers and resultant alteration of the earth's surface. Such evidence is presented by the author in a graphic way by a section showing changes in the Mendenhall glacier in Alaska.

Two serious impediments for the ordinary reader limit interest in subjects such as that discussed by Mr. Manson. One is the difficulty of adapting our conception of time to the enormous periods disclosed by geological and climatic evidence. The other impediment is in connecting such research with the practical affairs of our age, a view commonly taken by those who see the util tarian or practical side of life. The first impediment disappears by some logical effort and an examination of the elementary foundation of geology, respecting which there is no longer doubt except in branches like that treated in the present essay, such as lie outside the field of conclusive physical evidence, but it must be remembered that the views and conclusions such as here presented are not the emanations of personal opinion or conjecture, but propositions submitted to a tribunal as wide as civilization and one that comprises the highest learning to which we can attain. As to the second impediment, we seldom consider the relations of climate to industrial, economic and social affairs of life. It governs the distribution of population, the producing power of the earth, to a large extent the migration of people, and on this coast, or so much of it as lies within the "cool belt," is so important a matter as to be esteemed a basis for all that is claimed in material advancement, so that whatever gives promise of the causes that lead up to climatic phenomena should have here a special interest.

THE LARGEST TREE.—Visalia Times: W. H. Hart, the well-known millman, was in Visalia Tuesday from Eshom valley. Mr. Hart says that he recently found a tree north of that place that he believes is the largest of any tree yet discovered. At a height of 4 feet from the ground, although there is a burned place on the trunk at this point, it measures 113 feet in circumference, being 36 feet in diameter. From measurement, Mr. Hart says that the tree is 400 feet in height. He believes there is more wood in the tree than in any other tree in the world. The tree is located in section 23-14-38.

NOTICE.

The Annual Meeting of the Stockholders of the GRANGERS' BUSINESS ASSOCIATION, a corporation, for the election of a Board of Directors, and for the transaction of such other business as may properly come before it, will be held at No. 309 California Street, San Francisco, at 11 o'clock A. M., Tuesday, the 9th day of August, 1904.

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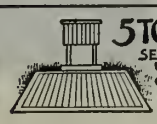
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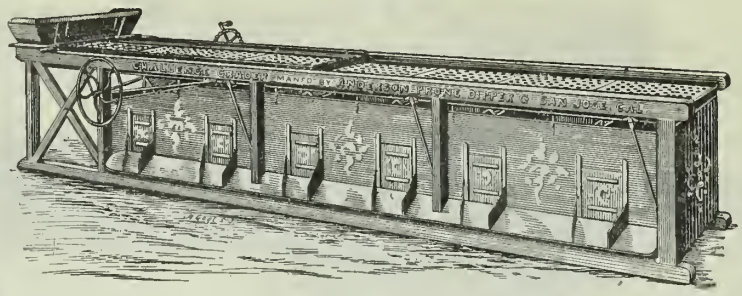
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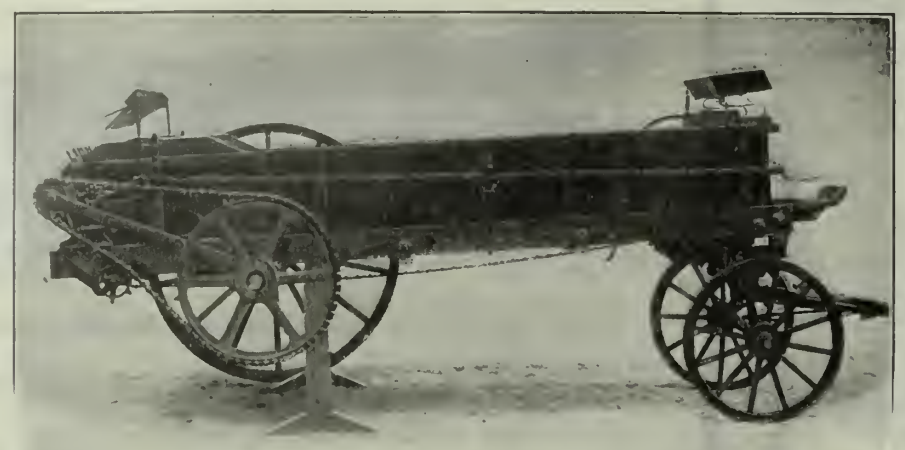
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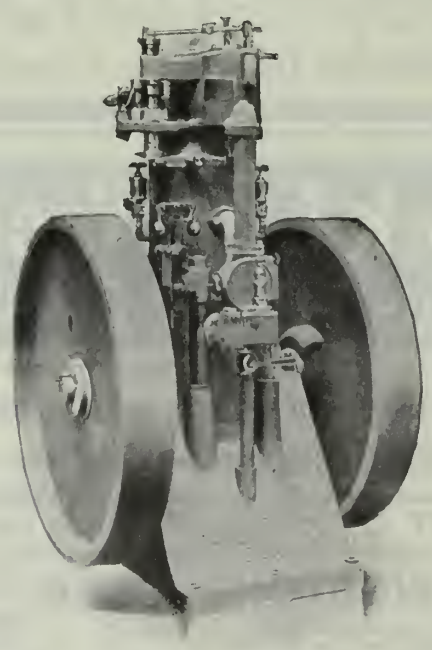
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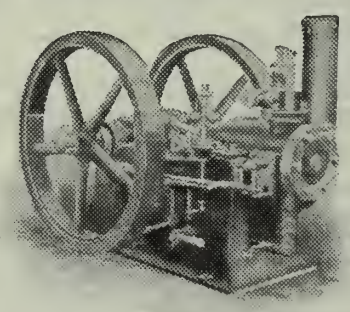
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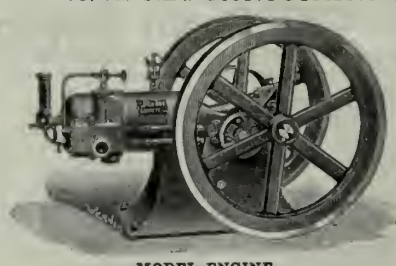
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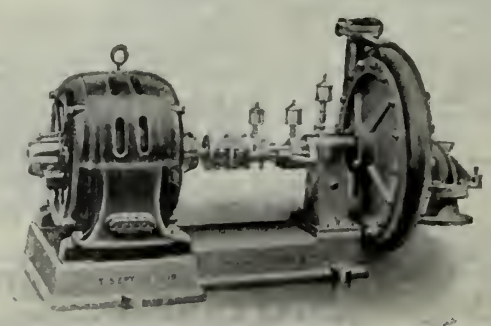
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Vol. LXVIII. No. 6. SAN FRANCISCO, SATURDAY, AUGUST 6, 1904. THIRTY-FOURTH YEAR. Office, 330 Market St.

Nevada Scenes.

Many readers will doubtless remember the interesting pictures and descriptions which appeared in our columns last year, illustrating the important researches of the botanist of the Nevada Agricultural Experiment Station into range conditions in the Sierra Nevada regions which are the joint property of California and Nevada. This exploration resulted in better knowledge of the sheep industry than was formerly possible except to the few who inhabited the immediate region. One of the Station experts who shared in the former undertaking has now done another good thing for the State in a publication entitled "Summer Ranges of Eastern Nevada Sheep," which has just been issued from the Station at Reno. It represents researches and reports thereof by Prof. P. Beveridge Kennedy, botanist and horticulturist of the Station, and we hope to extend the usefulness of his work and disseminate a better knowledge of our sister State also by such reproduction as we are courteously permitted to make.



Nevada Mountain Meadow and Lake in June Before Being Pastured by Sheep.

First, then, let us take a very popular line. Too many people know Nevada only by what they can see from the car windows when crossing the State by the pioneer overland line, and the inevitable conclusion is that, saving in the region from about Reno to the California line, it is a most forbidding and depressing country. Let Prof. Kennedy's work show that the overland flyer does not see all of Nevada, nor the best of it. He has given careful attention to regions away from the overland line, and, though it would not be safe to conclude that all away from the railway is good because most of that near the railway is bad, still it is clearly demonstrable that there are many good things out of sight of the ordinary tourist. In his general description Prof. Kennedy notes that the valleys directly south of the Southern Pacific Railroad at Beowawe, Eureka county, for 10 miles consist for the most part of alkali stretches. The surrounding mountains, however, contain numerous springs and excellent forage plants and are used for grazing purposes throughout the summer. A series of hot springs is to be found about 100 yards up the hillside from the valley, extending for about one-fourth of a mile and sending forth large quantities of steam and water from about 100 openings in the rock. A few are also met with on the flat, one being used to supply the hot water for a sheep-dipping plant, as will be shown at another time.

It was in the region north of the Southern Pacific Railroad that Prof. Kennedy's investigations were chiefly carried on. The land immediately adjoining the Humboldt river on the north, for a distance of about 16 miles, is owned by the Humboldt Land & Cattle Co., Mr. G. W. Grayson of Oakland, Cal., being the chief stockholder. It consists of about 20,000 acres under fence and cuts 1500 tons of alfalfa hay and 90 tons of native hay annually. Besides this, about 500 tons of giant rye grass (Elymus condensatus) are cut and bunched and left on the ground and the cattle turned in to feed on it in the winter. The great bulk of the land, however, consists of alkali and greasewood, but this is rapidly being reclaimed by flooding and ploughing with a traction engine. The ranch has connected with it two hot springs, the water from one being conducted through the house and the other used as a large open air swimming bath, shown in the engraving. The overflow from the baths is carried down into the garden and used for irrigation purposes. Here abound all the garden vegetables and small fruits, with a few apples, growing more luxuriantly than Prof. Kennedy has ever seen outside of California. It would appear that the water, being warm, enables the plants to come up and to grow more rapidly. The chemicals in the water may also have a fertilizing effect.



Hot Springs Bath on Ranch of Humboldt Land & Cattle Co. in Nevada.

An excellent example is given to the people of Nevada of what can be done by planting trees on the desert where water can be obtained. The region around Beowawe produces naturally only a few willows along the bed of the Humboldt river. Through the desire of Mr. Grayson to beautify his ranch, many thousands of trees have been planted within the last twenty years until now rows and groves of trembling aspen (Populus tremuloides) and Carolina poplar (Populus caroliniana) are to be seen in every direction, adding greatly to the beauty of the landscape and a restful joy to the travelers on the Southern Pacific, weary of looking at the dull gray sagebrush for hundreds of miles through Nevada. The ranch is devoted to cattle raising, the stock running on the free range during the summer and fed during the winter at the home ranch in enclosed areas.

The spring aspect of a Nevada mountain pasture is shown in another picture on this page. It is certainly a beauty spot which it would be hard to surpass anywhere.

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The Week.

The war still rages fiercely across the Pacific, and so great are marine dangers that flour shipments from this coast have ceased for the time. This is sad for our trade and sad for the people who are hungry for the food. The local effect of the hold-up is, however, minimized by the Eastern shortage of breadstuffs and advance in rates at supply centers. The outlook certainly is for a sharp demand for next year's crop, for all the world will be hungry, and California can get her product afloat in advance of any other northern hemisphere district which can have much to spare. There should be calculations now to get all possible wheat in early, and if the chance of a good year should fall our way we shall have a wheat income in 1905 such as has not been enjoyed during recent years. It is now time to begin to prepare for it.

Wheat is on the jump. Chicago rose four points and receded but one since our last report, which is net 3 cents to the good per bushel. The local speculative trade is easier than yesterday, but ahead of last week, and spot prices are 50c to $1 higher per ton. One ship has cleared, but with the old preference for barley—four parts of barley to one of wheat. Barley is firmer in the main and options higher. Oats are firm and in good demand and corn is higher—in fact the whole cereal line is strong. Beans are reduced in stock and high in tone as compared with last week; Pinks and Limas still leading. Arrivals of millstuffs from the north are free, but unchanged in rates. Hay drags with no improvement and the demand confined to fancy. Meats are unchanged, with the preference still running on the larger hogs. Fresh butter is still rising and stocks light. Cheese is steady to firm. Eggs drag a little, as Eastern are abundant and California only average in quality; the best are, however, expected to rise. Poultry is in good shape, good stock unchanged; fair receipt of California and three cars of Eastern. Potatoes are clearing up and in better tone. Onions are in good supply and steady. There seems to be much poor fruit arriving and it drags, while good apricots, peaches and plums go well. Pears are free in arriving and canners take large quantities. Berries are in lighter stock. Lemons are steady and little doing in oranges. Dried fruit is in good shape, except raisins and prunes; the former being reduced by the Association. Prunes are going abroad in large quantities, as shown in our Market Review. Almonds are firm and honey quiet. Hops are firm, but transactions scant; reports are that 21c is bid for new. Wool shipments are large and the market strong; buying is running far in advance—even into the clip of next year.

The meeting of the California Viticultural Club in this city this week brought out a good many promotive propositions looking toward increasing the consumption of California wines—some of them quite radical, like the abolition of the license from the sale of light wines. These matters were, however, held to be somewhat beyond the present view of the organization, and passed without action. A good amount of time was given to the presentation of topics relating to the successful growing of grapes, and these will appear in our vineyard department in later issues. Vigorous action was had on the subject of State aid to viticulture, and it was decided to present an appeal to the Legislature requesting an appropriation of $25,000 for two years, to be devoted exclusively to the investigation of vine diseases, and to include the expense of calling an expert from France into consultation. The Board of Regents of the University of California was requested to make arrangements with Professor Bioletti, recently appointed assistant at the University, for a stay of three months in France to investigate French methods which may be of importance in California.

We remarked recently the significance of the urgent appeal of the California Stock Breeders' Association for the extension of the instructional and experimental facilities of the agricultural department of the University of California. Significant, also—in another way, perhaps—is the interest which organizations afar from agriculture are manifesting in agricultural education. Even the drummers (and we have to beg pardon for the use of a term which has become offensive) call for agricultural education from the ground up, and do it logically and wisely. At the recent convention the Travelers' Protective Association passed a comprehensive resolution setting forth that the stability of our social and business conditions and the prevention of recurring periods of trade depression require that the balance of our population should be maintained on the land as independent home owners and producers from the soil. It was set forth that the American educational system should be so remodeled as to induce every child to be a lover of nature and of the country, and to train him toward the land as a source of livelihood rather than away from it; that children should be taught to farm as they are now taught in France and Denmark in the public schools, and that farm training schools should be established by county, municipal, State and National governments.

Since the publication of the reports of the almost fabulous prices paid in England for new varieties of seed potatoes (see Pacific Rural Press of April 2 ult.), American Consuls in Great Britain are sharp on potato literature with which British journals are largely filled. The Consul at Birmingham reports to the Department of Commerce the success of Mr. M. Wallace of Dumfreishire, a farmer who uses the boxing system of preparing potato seed. Mr. Wallace gives it as his experience that the yield per acre of potatoes had been increased by two or three tons, owing to the acceleration in maturity of early potatoes by sprouting them in boxes in the winter or early spring. Mr. Wallace is an advocate of frequent change of seed and of planting big, good potatoes. It is noteworthy that the change he advocates was from a high altitude or a cold, wet climate to a warmer locality. A very interesting point was touched upon in respect to the use of immature tubers for seed. He declared emphatically that the best and most robust crops are obtained from seed of this description, and cited in support of his argument the popularity of Scottish seed, which is seldom matured. There is not much in the proposition not already known and practiced in this country. In California, however, it is not necessary to sprout seed potatoes in boxes; they are all too willing to sprout in our high winter temperatures and are largely planted with sprouts started. The movement of seed potatoes from north to south is also widely practiced in this country. The full bearing of the point upon immature spuds for seed we cannot at the moment see the bearings of. We give it as we find it.

Just as the report comes from the chemists of the United States Department of Agriculture of the danger in using borates of soda in dairy preservation, there comes from abroad the statement that the French National Society of Agriculture has recently received from one of its members an interesting communication on the preservation of butter by fluoride of sodium. The writer says this substance is not hurtful unless administered in doses of some thirty grams (463 grains) a day for animals weighing 125 pounds. From one-quarter to 1 gram (1 gram = 15.43 grains) in a pulverulent state suffices for two pounds of butter, which it will preserve indefinitely. It is stated that the strength of the fluoride, so far as its effect upon the health is concerned, is diminished one-half by mixing. If, however, it retains its full strength, no inconvenience can result, as many physicians prescribe as much as 40 centigrams (6.16 grains) every twenty-four hours in order to regulate digestion. It is further stated that the fluoride can be used only in infinitesimal quantities, as more than half a gram (7.7 grains) to a pound of butter renders it unpalatable, but that instead of making the butter indigestible and less nutritive, the fluoride, when used properly, is considered an aid to digestion. If this French claim prove true it certainly offers an ideally perfect preservative — one which not only keeps the stuff but makes you feel better after you have eaten it. Now let some one start in and advertise hygienic, fluorided butter.

QUERIES AND REPLIES.

Alfalfa or Bermuda.

To the Editor:—Will you please inform me as to the best grass or forage plant for a permanent pasture for cattle, sheep and hogs here in the Colorado desert? The air is dry and very warm in the summer months. The thermometer ranges all the way from 100° to 118° in the summer and it gets cold enough to freeze ice ¼-inch thick in winter. We have plenty of water to irrigate with the year round. I have eighty acres laid off on the contour system that I wish to put into a permanent pasture. Alfalfa does well here, but is too easily scalded out if the water happens to stand too long on it. Bermuda grass does well here, but I do not know about its quality. Can you advise me as to the value of this grass? It seems to stand the heat and warm water and grows luxuriantly. Is it very nutritious, and would it make a good sheep or hog pasture?—Settler, Imperial.

Undoubtedly the best plant for all irrigated land, such as you describe, is alfalfa, and before giving up that plant one should exercise his utmost ingenuity in finding out how to use water safely. Possibly by irrigating at night the water would disappear before the sunheat could come upon it; or in using small quantities frequently and not allowing it to stand, or by applying irrigating water before cutting instead of after. In this way the gruond is shaded and chance of scalding very much reduced.

Bermuda grass is quite highly prized in the San Joaquin valley for lands which have too little water or where there is too much alkali for alfalfa. It is a good forage plant, but not so nutritious as alfalfa, nor can you get nearly as much to the acre. From what we know of your conditions, however, if we were sure that alfalfa was out of the question, we should be inclined to try Bermuda grass. All kinds of stock thrive upon it. It is, however, more tender than alfalfa and would give you satisfactory growth only during the time that frost is absent, while alfalfa will stand some frost. You must remember, also, that it is almost impossible to get Bermuda grass out of the soil when it is once established, and that it is very apt to spread to land which you may desire for other purposes. There is not a perfectly satisfactory plant known for both summer and winter growth under such conditions as you have.

Orchard Plowing—Apricot Pruning.

To the Editor:—What are the best tools for working clay soils in orchards? Is there a one-furrow disk plow that will work well on clay sidehills?

Does heavy pruning for 14-year old apricot trees during the last of July tend to exhaust their vitality?—Grower, San Jose.

In the different localities and soils of the State different tools are used and it is hard to prescribe any particular ones. On large farms they have different cultivators for different soils that they may have on the ranch. Usually the best way to get any information in any locality on that subject is to confer

with those who have similar land which they have been cultivating for several years, and get their judgment of the tools which they have used. Disk plows are quite largely used with good results on heavy clay soils, but for a single disk, fitted for sidehill plowing, we do not know of any. It would be desirable to address an inquiry to our advertisers of implements on such a subject. They keep well informed of what is in the market, and the fact that they advertise in our columns is assurance that their services are offered to our subscribers.

The pruning of apricot trees during July would have the effect of reducing the wood growth and sometimes is promotive of better bearing. In one sense it might be exhaustive of the vitality of the tree, but in another sense it seems to direct the vitality more to the perfection of fruit buds than to the growth of wood. It is getting to be a very common practice to do the heavy pruning of apricot trees directly after the crop is gathered, and, as it has been continued for a number of years with good results in the case of the apricot, the probability is that it is a good practice. There are many operations in horticulture where the grower has to consider not only what is good for the tree, as a tree, but what is good for himself as a fruit grower.

Dodder Once More.

To the Editor:—Enclosed please find specimens of a parasite growing and thriving on alfalfa. It does not seem to have any roots but grows on the alfalfa and strangles it. It expands rapidly and instead of a luxurious growth of a verdant hue leaves a death-like trail of a light-brown color. It also attacks the older plants. The alfalfa fields are dotted with these ugly spots. Could you tell me the name of this parasite and give me any information about preventives and remedies?—Grower, Ellsworth, San Joaquin county.

The alfalfa specimen which you sent is infested with a vegetable parasite known as dodder, and as so many are seeing it for the first time we give another brief account of it. It is a species of Cuscuta. It grows from a seed which is usually carried with the alfalfa seed. These seeds sprouting in the ground produce a plant which soon attaches itself to the stem of the alfalfa and when it had done that the stem leading to the ground perishes and the dodder lives after that as the true parasite, entering the tissue of the alfalfa and appropriating its juices to its own uses. When the dodder is first noticed the patch should be covered with straw and burned, so that the dodder would not have a chance to make new seed. Where the alfalfa is used for pasturage the cropping of the animals prevents seeding and in this way the plant is often stamped out. If, however, it has secured such a start that it cannot be checked by burning the seeds or by pasturing the field, there is nothing left to do but to plow it up, turning under the old surface as deeply as possible and resowing with seed which is free from the dodder seed. Dodder seed is much less than half as large as alfalfa, a small, round, dark-colored seed, and it can be separated from the alfalfa by using a fine screen which will hold the alfalfa and allow the dodder to pass through.

Beans and Irrigation.

To the Editor:—Have you information in regard to land in any part of the State that has been irrigated for a crop of beans, and what has been the experience of farmers who have irrigated for such a crop? What the increase has been over crop of same land without irrigation, and the approximate cost of irrigation for this crop?—Enquirer, San Francisco.

There are few beans grown in California by irrigation, although the practice has been demonstrated to be feasible in Ventura county, providing the irrigation is wisely done. Where, however, it is possible to wet the land thoroughly by winter irrigation and the soil is deep enough to hold the moisture the crop can be made without summer irrigation if thorough cultivation is given. In more arid parts irrigated beans would be satisfactory if the water is wisely applied. One difficulty, however, is in getting the ground too moist in the latter part of the growing season, for this maintains vegetative action in the plant and renewed blooming at the time when the plant ought to be maturing and drying and finishing up the pods previously set. This difficulty is encountered some years in growing beans on the moist lands of the San Joaquin and Sacramento river islands, where the seepage water will keep the crop growing too late and interfere with proper maturing before the frost would come in. Certainly too little has been done to enable one to make an estimate as to what the advantage of irrigation is in the handling of this crop and the cost of it. Practically nearly the whole bean crop of California is now made without irrigation. We would like to have accounts of results with irrigating beans from all readers.

Castor Bean Growing.

To the Editor:—We have grown about thirty hills of the Sanguinary castor bean—beautiful plants, 10 feet high and bearing seed in great bunches, all over. We believe they could be profitably grown here. Is the Sanguinary bean the variety from which the oil of commerce is made? Please tell us about the chances of growing castor beans and machinery for making the oil, and if it is profitable if a good article is made.—Enquirer, Inglewood, Los Angeles county.

Castor bean growing has been undertaken from time to time during the last twenty-five or thirty years in various parts of California. There is no difficulty about getting a satisfactory growth of the plant in parts of the State where moisture enough can be depended upon. There was at one time something of a product in the low lands of Los Angeles county, about El Monte, and it was held to be profitable until free importation of East India beans and growth of the castor bean in the central West reduced the price. Although the growing of beans is easy enough the harvesting is a difficult proposition, because in California the clusters ripen from time to time, have to be gathered by hand, to be put in the sun to dry, and finally threshed when they are popping properly. The low price in connection with the amount of hand work which has to be done upon the crop has removed all its attractions for California growers. There is, also, an excess of production in the central West, which causes prices to fall, and makes it still more impracticable to make money from the crop with the ordinary rates of labor. The oil cannot be economically extracted except by the aid of the most effective machinery and a well equipped establishment. Oil making in the rude way in which it is conducted in India would certainly not be profitable here. The ornamental species, such as you have, are not suitable for oil making.

Estimating Weight of Hay in Stacks.

To the Editor:—Can you give me information in regard to what is known as the Government system of measuring hay in the stack? I understand that there is such a method used in purchasing hay for the army. Any information as to the method, the length of time the hay should be in the stack before measuring, and if a less number of cubic feet is considered a ton after the hay has been in the stack six months or more, will be gratefully appreciated.—Subscriber, Crow's Landing.

We do not know what the Government method of computing the weight of hay in the stack is. The common way of estimating the weight of well settled hay in the mow, or in a long, square stack, such as is commonly made in California, consists in multiplying the length in yards by the width in yards, and that by half the altitude in yards, and divide this product by fifteen. The quotient will be the number of tons in the stack. For calculation in windrows, or in stacks loosely put up, you multiply in the same way, but divide by twenty instead of fifteen, and the quotient will be number of tons in a freshly made stack. These calculations are for medium sized stacks. Of course, if the hay is piled to a considerable height with horse forks, and there is much pressure upon the lower parts, there will be rather more tons than your estimate would indicate.

Propagation of Nut Trees.

To the Editor:—Do seedling almonds come true to seed, or do they have to be grafted? And if not true to seed, what particular almond is used for seed? If grafted, why not use the simple process employed in the Santa Clara valley of cutting the stock for the scion near the ground, and merely covering it with earth (without any tying), as in the case of the prune on almond? Also, are there any particular dealers who handle nuts of various kinds for seeding? Do the varieties of English walnut as well as the native Black, come true to seed?—Reader, Alameda.

Almonds do not come true to seed. They are unexcelled in their range of variation, and must be grafted or budded—generally the latter method is adopted. Hard shell sweet almonds are generally used to grow stocks. The common practice is to work near the ground. We have not heard before of just the method of low working which you describe and cannot base any analogy upon it. Nurserymen generally look out for their own supplies of seed for stock, either growing it themselves or having it collected for them and keeping it from drying as the commercial almond is dried. The English walnut comes truer from seed than the almond and has been largely grown that way, but at present grafted trees are coming into wider favor because they ensure a more uniform product, earlier bearing and a smaller tree.

WEATHER AND CROPS.

Report of the U. S. Weather Service for Week Ending August 1, 1904.

Alexander McAdie, Forecast Official and Section Director.

Sacramento Valley.

Clear, warm weather continued during the week. Grain harvest progressed rapidly and is nearly completed. The crop is very light in most sections and the quality inferior. The hay crop, now nearly disposed of, is heavy and of excellent quality. Hops are making good growth and the crop will probably be fully average. Grapes continue in first-class condition, very little damage having been done by heat thus far, and the outlook is good for an unusually heavy yield. The prune crop in Yolo, Colusa and Glenn counties is reported large and of good quality. Pears are yielding a good crop except in the foothill districts and heavy shipments are being made. Peaches are light in most sections. Figs and oranges are in good condition.

Coast and Bay Sections.

The weather was generally clear and warm during the week, with occasional fogs along the coast. Grain harvest is progressing rapidly and the yield and quality are reported very good. Corn, beans and vegetables are doing well. Bean harvest has commenced in Lake county. There are about 1500 acres in sugar beets in the Pleasanton district; the crop is in good condition, but will be late. Hops are making excellent growth and in some sections the crop will be the best for several years. Apricots in San Benito county are yielding a better crop than expected. Prunes are ripening rapidly and will be a good crop in some sections. Bartlett pears will yield about the same as last year. Grapes are in excellent condition and ripening; the crop will be heavy in nearly all sections.

San Joaquin Valley.

Clear and warm weather prevailed during the past week, and was favorable for all crops. Grain harvest has been completed in some sections and is progressing rapidly in others; the crop is light. Alfalfa is making good growth, and the third crop is being cut in some districts. The deciduous fruit crop is ripening rapidly, and dryers and canneries are in full operation. Large shipments of peaches, plums and Bartlett pears to local and Eastern markets continue. Watermelons are plentiful and are being shipped in large quantities. Sorghum and corn are making good growth. The prune crop is good. Grapes are making good progress and a large crop will be harvested. Early table grapes are being marketed. The citrus fruit crop is making good progress. Water is getting low. Stock are healthy and in good condition.

Southern California.

The weather was warm and generally clear during the week, with fogs along the coast. Heavy rain fell in the mountain districts, amounting to 3 inches in some places, and was accompanied by severe thunder storms, in which two lives were lost. Grapes continue in good condition and the vineyards in irrigated districts appear to be more thrifty than elsewhere; large crops are expected in all sections. Apricot drying is nearly completed; the crop is light. Peaches and other deciduous fruits will yield light crops. Citrus fruits and walnuts are making good progress. Beans are blooming and podding, and there will be a large crop on irrigated lands.

Los Angeles Summary.—Peaches and apricots are light crops; the latter is nearly cleaned up. Prunes are light. Oranges and walnuts promise less than usual on account of dropping; quality good. Favorable bean weather.

Eureka Summary.—The bulk of the hay crop is stored. Worms are doing considerable damage to corn on Arcata bottom lands. Apples are ripening rapidly; yield far below last year and average.

Rainfall and Temperature.

The following data for the week ending 5 A. M. Wednesday, August 3, 1904, are from official sources and are furnished by the United States Weather Bureau for the Pacific Rural Press:

California Stations.	Total Rainfall for the Week	Total Seasonal Rainfall to Date	Total Seasonal Rainfall Last Year to Same Date	Average Seasonal Rainfall to Date	Maximum Temperature for the week	Minimum Temperature for the week
Eureka	.00	1.19	.06	.13	60	46
Red Bluff	.00	0.10	.00	.03	102	64
Sacramento	.00	T	.00	T	94	52
San Francisco	.00	.02	.00	.02	72	50
Fresno	.00	.00	.00	T	102	60
Independence	.00	T	.00	.07	96	60
San Luis Obispo	.00	T	.00	.01	74	48
Los Angeles	.00	.00	.00	.02	82	56
San Diego	.00	.00	.00	.05	76	62
Yuma	.04	.09	.04	.18	106	78

HORTICULTURE.

What Has California Done for Fruit Growing?

By Prof. E. J. Wickson—Remarks in opening course of instruction in California fruit growing at the summer session of the University of California.

The ability to originate and invent and to adapt means to ends has been most clearly displayed in the upbuilding of the fruit interests of California, and it is interesting to note briefly that a significant service has been rendered to fruit growing everywhere because methods and policies recognized as Californian are being introduced wherever practicable in all parts of the world. Governmental commissioners have appeared from all civilized countries and have made elaborate reports of their observation of California methods. Not only have young trees and vines been shipped in all directions from our nurseries, but implements and machinery employed in fruit growing and fruit preservation have been widely exported. Greater service than this has been rendered in the demonstration of the value of certain pomological methods and policies which are proving helpful to fruit growers in other parts of the world. Among these may be named:

First—The importance of clean cultivation during the growing season, not alone in the conservation of rainfall, but in promoting physical conditions in the soil which are favorable to vigorous root action. California may not have invented such cultivation, but the world paid no attention to it until California exhibited its benefits by thousands of acres. Now it is the accepted method nearly everywhere, and the epoch of grass growing in orchards has closed, even in the most humid climates. In his report of the experiments made on Woburn farm in England in 1903 the Duke of Bedford shows that trees in cultivated ground made in some cases twice, and in some cases thrice, the growth of trees growing in grass. The ancestors of the Duke of Bedford, probably in their adoration of turf, scorned old Jethro Tull's "Horse Hoeing Industry" in 1733, but the California demonstration of the truth of Tull's theory of tillage is bringing belated honor to the prophet in his own country.

Second—California has shown the essential nature of clean surface cultivation in connection with irrigation, and this demonstration is influencing practice wherever irrigation is employed.

Third—Irrigation supplies always available in case of deficiency in rainfall are recognized in California as the safeguard of horticultural investments and of thrift of trees and vines, and this, too, is being provided for now in humid regions, where recently irrigation was looked upon as valuable only in deserts.

Fourth—Low, vase-shaped fruit trees were formerly grown in gardens. To-day they are found in the orchards of all continents, but California furnished the demonstration of their superior economy, thrift and profit and banished the old high-trunk, cow-browsed fruit trees from commercial orcharding. Modern fruit growers cannot afford to use spliced ladders, nor can trees afford to pump sap through several yards of firewood in the shape of useless trunk and main branches.

Fifth—Orchard and vineyard protection from pest and fruit diseases first reached great and systematic development in California, and the two most effective insecticides for fruit tree insects now in use originated in this State. In California, also, the most striking demonstration of the value of pursuing injurious insects by multiplying their natural enemies has been reached.

Sixth—California has led in the new and aggressive American policy to market fruit products abroad, and has reached signal achievements in supplying American markets with certain fruit products previously available only through importations.

Seventh—Success in the organization of fruit growers for co-operative action in preparation and marketing of their own products has enabled California to enforce policies of wide distribution and economic production which alone could avert the disaster which usually attains very rapid increase in the volume of products which are not already recognized as staple foods.

Eighth—California has reached such success in plant breeding that a very large part of the varieties commercially grown are of commercial origin. The production of fruit in large quantities required varieties adapted to local conditions of climate and suited to the definite purposes involved in long shipment, in drying and in canning. The varieties which delight the amateur may bring no profit to the commercial grower. California succeeded so well in reaching these commercial standards that the California varieties are being accepted as a basis upon which to begin fruit growing in the uttermost parts of the world. California conditions also must be credited with bringing new life to a number of old varieties too delicate in their nature to reach commercial standing in more trying climates.

Ninth—California also holds the leading place for the creation of new varieties, found unique and valuable both to commercial growers and amateurs, in the achievements of Luther Burbank, who has worked with an eye on the requirements of the world at large.

The Satisfaction of It All.—Enlistment in California fruit growing has proved exceedingly satisfactory to tens of thousands of people in the various ways along which they have approached it. The fruit districts are full of cottage homes sheltering families of those who have begun with small investments and have made a good livelihood, and often considerably more, from a few acres of fruits grown largely without expenditure for hired labor. The study of the needs of the tree or vine and ministering to them by personal effort has brought new health and new incentive to the worn and weary who have taken up outdoor life and activity in California fruit growing with a wise choice of location, land and fruits, for obviously in all investments one must be wise as well as willing.

In large operations hundreds have notably succeeded by purchasing good land in large tracts at low rates and making ample investment for its development and improvement. Some of the most delightful of our towns and villages have arisen as a direct result of such employment of capital. Well established communities, well churched and schooled, well provided for in local trade and transportation and widely known citizens, have followed investment of money and devoted effort in colony enterprises.

Hundreds, also, have purchased large tracts of wild land and have developed fine estates for their own personal gratification, with thriving orchards of all kinds of fruits, rich pastures tenanted with improved livestock, parks, gardens and buildings comparable with the estates of the European nobility, except that California conditions favor freedom and variety in outdoor effort unknown in Europe, and command proportional interest and enthusiasm. Estates for winter residences in California are exceptionally desirable, not only because of natural advantages and greater possibilities of development, but because of the advanced standing of the State financially and socially.

All of these lines of effort then—home-making in a small way, colony enterprises and private estate development—have yielded on the whole great satisfaction and success. Fruit growing has been the central idea in nearly all of them, but it is obvious that activity in any productive line begets opportunity for other lines, and so all branches of agriculture have advanced and the diversification is highly desirable. Opportunities in manufacture, trade and professional effort of all kinds have been quickly seized and developed with much originality and success. Fruit growing has created them all and has in turn been advanced by all, for every accumulation of capital promotes it. Successful toilers in all lines become planters. The ancestral delight of the race, to sit beneath one's own vine or fig tree, is nowhere more enthusiastically manifested than in California, and nowhere else does the emotion of comfort in ownership yield such profound and protracted satisfaction.

The Outlook for California Fruits.—The outlook for California fruits and fruit products involves considerations of much economic interest. Though the volume is already large and there may be experienced now and then temporary dullness or depression in this line or that, the business is on the whole brisk and profitable. There is such a wide range in the fruits grown and the products made from them, and such changes in local conditions in the many purchasing States and foreign countries with which Californians deal, that there must be some fluctuations in the values of some of the supplies offered in distant market. The result is that first one fruit and then another one seems to be more or less profitable. The fact, however, that all are increasing in volume and the total traffic brings each year more money to the State, is a demonstration of the standing of the collective output. Each year new markets are found, both at home and abroad, and the capacity of old centers of distribution is shown to be greater than anticipated. There seems to be every reason to expect that the products can be profitably multiplied. Although there still remain extortions in the overland transportation which are against the interests of both growers and carriers, although satisfactory speed and regularity of movement have not yet been attained, there has been such improvement in the last few years that distant shipment has become more safe and profitable and distribution far wider. It is reasonable to believe that further improvement in movement and reduction of cost will be realized and the per capita consumption in the populous parts of our own country proportionally advanced. In spite of all that wintry States can do for local supplies, California can find open markets before and after the short ripening season of the Eastern States for her early and late fruits, and can use her own mid-season fruits in the drying and canning industries, though it is a fact that in the height of the Eastern fruit season a considerable quantity of California fruit will command the highest prices because of its exceptional size, beauty and keeping qualities. The citrus fruits, so long as they are allowed to remain under the favoring tariff which now exists, will continue to supply an American product of exceptional quality and freshness, while prunes, nuts, raisins and wines will not only do this, but will push forward into the trade of Europe, as they are now beginning to do in a most vigorous manner. A very startling and significant report was made by one of the United States Consuls in France recently that our canned and dried fruits were appearing on the shelves of all the provision shops of the smaller French towns and were being freely sold without reducing the prices of the locally grown fruit. Practically the same thing could be said of points in Germany and other European countries. The fact is that European countries cannot grow fruit enough to supply their own people and fruit has been largely a luxury. California dried fruits are being welcomed by the great middle classes and are likely to become a staple of their diet. This explains the ultimate disposition of the large amounts now going direct from California to Europe. For the year ending November 30, 1903, 21,260,197 pounds of dried fruits cleared from the port of San Francisco and not less than three-fourths of it was taken by steamers direct for Europe via Cape Horn. The promotion of such traffic by the building of the Panama canal need only be suggested.

California's exports of high-class food supplies to European countries are likely to reach values like those of the wheat and barley which we are now sending to that part of the world. The development of adjacent territory on the American continent and other Pacific countries may shape the future of California as a fruit producing State in a way which can at present only be dreamed about. It should be remembered that California has a unique character from a horticultural point of view. Not only does the State have a monopoly of semi-tropical conditions of the United States (excepting parts of Florida and Arizona), but California has command of the whole of northwest America and the whole of northeast Asia, not only in the supply of semi-tropical fruits, but in early ripening of hardy fruits as well. California does not grow tropical fruits—they must come from the islands and the tropical south coast countries. Semi-tropical fruits are, however, vastly more important in commerce than tropical, and a region which successfully combines northern orchard fruits with the whole semi-tropical class commands the fruit trade of all accessible populous regions which have limited fruit capabilities. There are now four such regions with the kind of population which makes for industrial advancement—Southern Europe, South Africa, parts of Australia and California. As already shown, we are competing successfully with South Europe in the capacious markets of North Europe. South Europe and Australia are unfortunate in lying in the southern hemisphere, which is mostly ocean wastes, and they are handicapped by tropic crossing in their northern shipments, although the fact of opposite seasons may help them, and also us, in avoiding competition for trade which both desire. California will soon be less than half as far by sea from European and Atlantic coast ports as at present, but California in the future will have less occasion for such distant recourses. Prophets, farseeing in world courses, declare that the Pacific ocean is to be the arena for commerce greater than the world has yet seen and the Pacific coast countries are to contain the greater part of the world's population. This greatest quartosphere with its superlative opportunities and activities will have California as its treasure house of fruits and fruit products. During the half winter the citrus fruits will afford tonic and refreshment, and before hardy fruits bloom in northern climes the same fruits will appear from the early ripening districts of California. In this traffic California will not only be practically without a competitor, but, sitting beside the sea, there will also be every advantage of water transportation and the sustaining ocean temperatures for the fruits in transit. California dried and canned fruits will render acceptable diet even through the most Arctic stretches along which development may advance in North America and North Asia, while a succession of fresh fruits will flow to all Pacific ports throughout the year. California, too, will be the winter residence for all the North Pacific millionaires and the haven of rest and recuperation for all who are worn by Arctic cold or tropic heat throughout the great circle of the Pacific ocean. Here the arts will flourish, education attain its highest achievements and culture prevail. Then fruit growing both as a commercial enterprise and as a home delight will attain value, volume and perfection, of which present achievements are but a faint foreshadowing.

Hardiness of the Almond Root.

To the Editor:—I notice considerable discussion relative to almond root for budding stocks of plums, peaches, etc. As a "tenderfoot," not many years since, I bought an almond orchard and it proved to be seedling; so I had it budded over to plums, peaches and prunes, and at the same time set out the same varieties with other roots, and it is my experience on this hard clay soil, with limited rainfall, that the almond root is best of all; it will do something however much neglected, when all others on other roots decline to furnish fruit at all.

There are men here who bud plum into the almond and then bud apricot into the plum in order to enable them to use almond root. M. Billings.

Benicia.

THE FIELD.

The Situation in Wheat.

The situation in the wheat market, as described by Bradstreets, is an interesting one at present, and despite that a rise of from 6 cents to 10 cents per bushel has occurred in new crop deliveries since July 1, there are several strong features in the situation which tend to discourage short selling in heavy volume. In the first place the old crop supplies are down to the minimum of the past six years. Figures of consumption, seeding, export and amounts on hand, compiled by various authorities here and abroad, seem to point to last year's crop having been overestimated. Broomhall, for instance, in his latest journal received, makes the following tentative estimate of last year's crop:

	Bushels.
Farmers' reserves July 1	37,000,000
Visible supply of wheat alone in the United States	26,000,000
Total reserves at present	63,000,000
Domestic consumption 81,000,000 people at 4⅘ bushels per annum for twelve months	377,000,000
Seeding 49,000,000 acres	74,000,000
Exported between July 1, 1903, and June 30, 1904	120,000,000
Total wheat in sight during season 1903-4	634,000,000
Deduct quantity carried over from June 30, 1903	76,500,000
Indicated outturn of harvest of 1903	557,500,000

These figures, he thinks, point to the Government estimate of 637,000,000 bushels for last year being much too high. In addition, the outlook for the new crop, a late one at best, is not of the rosiest. Unless some usually careful people are badly mistaken, the wet weather in harvest did considerable damage in Kansas and Missouri. The spring wheat prospect is well-nigh faultless as yet, but there are 5,000,000 acres less in winter wheat this year, and while the Government July 1 figures are construed to have indicated a crop of 660,000,000 bushels, other private authorities freely predict not more than 580,000,000 bushels, and the mean of these two aggregates would be not far from 620,000,000 bushels.

Given the short supplies present and immediately prospective and crop damage tales from the southwest, there would be sufficient strength here to furnish a strong undertone. In addition, however, have come the steady reductions in stocks both at home and abroad, as indicated by Bradstreets reports of American and European stocks, and advices of less than earlier anticipated yields of wheat in leading European countries come from Hungary, France, Italy and Russia. The outlook is for a world's crop slightly smaller than last year's record total, which, owing to increased consumption, left no very large or depressing stocks on hand. Present good prospects in the West and expectations of freer receipts are about the most prominent bearish features perceptible, but it is well to keep in mind that the winter wheat harvest this year was a wet one and that the early wheat is expected to grade poorly, thus rendering the short side as dangerous as it was one or two years ago at this time, when good milling wheat was in so much request.

It has been a year of steady high levels in wheat prices. July delivery on January 1 sold at 86⅜ cents at New York, and very seldom since then has it sold below this point, while it has sold up as high as $1.03 in February, and again in May when cash wheat reached $1.20. The latter, by the way, has not sold below $1 since the middle of February. The relatively high level of prices for over six months past and the fact that now prices are 20 cents higher than a year ago at this date, should, of course, be taken into account in any consideration of the future course of values.

Treatment for Grain Smut.

Mr. L. S. Hurd writes to the San Diego Union concerning the formalin treatment of seed grain against smut as follows:

This method has been used in North Dakota since the season of 1896, when it was discovered at the experimental station at Fargo, N. D., with general satisfaction to those who did their work well. I know whereof I speak, for I am from there and raised grain there since the summer of 1880.

Take one pound of 40% formaldehyde and forty-five gallons of water; mix well in a barrel. Then to apply put some grain on a tight floor and sprinkle the solution on the grain with a common watering pot—the finer the spray the better—and at the same time shovel the grain over and over and keep sprinkling until when the grain is shovcled up into a pile the liquid will drain out on the floor a little.

Every kernel should be thoroughly wet. Treat the amount that is needed for a day's sceding; leave in a pile and cover up with a canvas of some kind and let stand for two hours or more, then stir out until dry enough to use in the seeder and not clog so as to prevent seeding even. Somc sceders will use it when it is damper than others. Of course, it will swell the grain, and to get in the same quantity it is necessary to take a given quantity of dry grain, say, five or ten sacks, and, after it has been treated and swelled, resack and see how many sacks you have. Then open up the seeder enough to get in the same amount as if it was dry.

Sweet Potato Disease in Merced County.

Prof. R. E. Smith, plant pathologist of the University of California, has just made an examination of a sweet potato disease reported to the University by Mr. Joseph Fredericks of Atwater. His preliminary report is as follows:

There appears to be little doubt that the presence of this disease is a serious menace to the future of sweet potato growing. Every field is affected, most quite badly, and it is stated by the growers that the disease has been increasing rapidly in abundance during the past few years. At this rate it will be but a few years before the percentage of vines affected will be so great as to cut down the crop to an unprofitable figure, unless some remedy is found for the trouble.

Nature of the Disease.—Affected plants gradually turn yellow and wither away. When pulled up the stem is found to be decayed under ground, and in splitting it lengthwise a black discoloration and dry rot is seen, gradually extending toward the top. On the outside of the most decayed parts a white mould or fungus is visible, and this is the cause of the disease. By growing in the woody part of the stem this fungus produces the discoloration and rotting, and thus the plant is cut off and dies. The fungus also proceeds downward, to some extent, as well as upward, and in this way the potatoes become somewhat affected, as shown by black, discolored fibers entering the stem end.

It is easily seen that there are three means by which this disease may be spread: first, through affected seed; second, in the seed bed, and third, in the field. Which of these actually occurs to the greatest extent is the most important question to be decided, and one of no great difficulty. With this settled, it will then be necessary to find means of cradicating the fungus at the time when it is found to make its attack. This, I believe, can be done by practical and thorough investigation.

Treatment Suggested.—For this season nothing can of course be done to mitigate this trouble. For next year, however, I would strongly urge sweet potato growers to observe the following precautions: Use great care in selecting seed to avoid as much as possible planting that from affected plants. Make new hotbeds with soil and manure which have had no connection with sweet potatoes before. Plant on new land if possible and grow some other crop on old potato land for at least two years. Also clean up and burn the old vines in the fall as thoroughly as can be done.

Next spring I hope to be able to take up this matter and make investigation looking for a method of stamping out this disease as completely as possible. I may, however, suggest that the measure of support given our Agricultural Department by the coming Legislature will determine entirely the extent to which new work of this sort can be undertaken next year.

Celery Growing in Washington.

California growers will be interested to learn from the Northwest Horticulturist of operations farther up the coast. About 3 miles west of Elma, Chehalis county, Wash., is the home of the expert celery grower and gardener, J. H. Hale. While owning considerable land, his gardening operations are confined to about three acres of black, alluvial, deep soil, such as may be found in numerous localities in this State. Included on this is his dwelling, barn, a small greenhouse and poultry house, also some fruit trees. Last year the sales from the produce of this three-acre farm aggregated the sum of $2385.

The work was done by himself and son, and perhaps did not average over nine hours a day. The main crop is celery of the Kalamazoo variety, grown by such intensive methods as to reach a yield of over 53,000 pounds per acre. Last year from a measured ¾ acre 40,000 pounds of celery was sold at prices ranging from 85 cents to $1.25 per dozen, delivered at Elma station, with orders for much more than was grown.

The soil is what is known as a mixture of muck and beaver dam, with substrata of sand and clay. It is underdrained, with the tile laid about 4 feet deep and 20 feet apart, and there is water from nearby springs for irrigating. Fertilizers consisting of forty loads cow manure and commercial fertilizer composed largely of potash and some nitrogen, mixed by himself, at the rate of two tons per acre, are the dressings with which the soil is made spongy and rich in the plant foods required by the celery. The manure is applied early in the spring, plowed under deeply and the commercial fertilizer applied just before setting out the plants. Mr. Hale has found, after considerable experimenting, that kainit applied at the rate of half a ton per acre is an excellent preventive for fungus diseases.

The celery seed is sown in cold frames in February, then once each month to May for a succession of crops. The first plants are large enough to set in the garden rows about the last of May. The rows are about 3 feet apart, with plants 6 inches apart in the row, and as one crop nears maturity the second crop of plants is set midway between the first rows. Thus two crops can be taken from the same piece of ground at once, and, well managed, a second set of crops makes in reality four crops from one piece of ground in one season. Mr. Hale uses as much water as the plants will possibly absorb, for he realizes that over 90% of the celery is water, and with this, as with all fruits, the profit margin lies largely in turning a generous portion of our Pacific coast moisture into the finished, crisp, delicious celery, strawberry, cherry, etc., so much relished by our city cousins, and for which they are willing to pay good prices.

Having an abundance of available plant food and moisture, the celery grows rapidly on the approach of warm weather. The blanching is done by means of boards 10 feet long, convenient for handling, in addition to the ground which is banked up against them. When ready for market the crisp bunches are of uniform size, about 26 inches long, and without any decayed specks or blemish.

Mr. Hale's customers are merchants in Portland, Tacoma, Seattle and Olympia, besides the Gray's Harbor trade, whose orders are all booked ahead from year to year.

Other Crops and Produce.—Some people think it does not pay to grow cabbage, but last season Mr. Hale raised cabbage at the rate of 13,650 heads of nine pounds each per acre and sold them at $30 per ton.

On a measured 1¼ acre of ground seventy tons of produce were raised and sold last season. This includes celery, cabbage and lettuce. Big Boston and Salamander are the principal varieties of lettuce and some of the heads weigh 3½ pounds.

While being a celery specialist, Mr. Hale is an intensive gardener of first rank. Ten years ago he was without knowledge of farming, therefore had no preconceived prejudices, and, having met with disastrous logging operations financially, turned at once to a scientific study of gardening along the best modern approved methods. His present success and attainments have meant considerable experimenting, and while some of them have been costly, he does not begrudge the price, for he has mastered the art of celery growing second to none in the land; the soil is made to produce according to his plans and markets are at his command.

As is characteristic with others of skill and tenacity, Mr. Hale is generous and broad-minded, ever willing to impart information which will help others to attain success along intensive methods, and thus serve to increase comforts and general prosperity of modern farming.

THE POULTRY YARD.

What Kind of Poultry to Have.

To the Editor :—A good many farmers are changing from scrub stock to pure-bred poultry, and the question arises whether it is better to buy eggs or stock. Before any definite steps are taken one should have a clear idea of what they wish to accomplish. If one wishes to engage in the purely commercial branch of the business, and broilers and market fowls are the chief object, then the cheapest way to proceed is to buy pure-bred males of the desired breed and mate them with the best of the stock on hand. If the best of the flock is selected for breeding purposes each year, in two or three years the result will be practically a pure breed of fowls. Always use the same kind of males.

For broilers and market fowls, either one of the Plymouth Rock or Wyandotte varieties are unquestionably the best. There is but little difference in quality between the two, except the Wyandottes are of more compact build and have rather more breast meat. Both breeds are fine winter layers.

But if egg production is the object, then males of breeds noted for their superior laying qualities should be procured. Either the Black Minorcas or White or Brown Leghorns will answer the purpose, the preference being for the Minorcas, as they are a larger fowl, are very hardy and lay the largest and whitest egg of any breed. When it is possible to do so it is more profitable to keep two kinds, one of the American breeds and one of the Mediterranean class. We will then have both meat and eggs. In the summer time, when the Plymouth Rocks are broody and taking the rest natural to them at this time, the Minorcas will be laying steadily until fall, when they moult and take their yearly rest. But we may expect eggs from the Wyandottes and Plymouth Rocks at this time, even though moulting except for a short time just after the new feathers have come in.

If one wants to become a fancier in a small way and sell eggs and stock for breeding purposes, then, of course, pure-bred stock is wanted at the start and the best that one can possibly afford. It saves time to begin with the best, and it is more satisfactory in every way. If one can afford it, it is better to buy a trio or pen of fowls and three or four settings of eggs also. Otherwise we should prefer to start with eggs alone, as when there are only a few fowls to breed from the chicks will be of all sizes and ages. It is

desirable to have the young stock of as even ages as possible, then in the fall there will be more salable birds on hand. In buying several sittings of eggs or an incubator lot, with ordinary luck the results should be as many chicks as would be raised from a trio, while they would have the advantage of being of the same age.

Thoroughbred stock is far more profitable and more satisfactory in every way. Such fowls lay better, are worth more in the market, and by selling stock and eggs for breeding purposes the usual profits are more than doubled. Ella L. Layson.

West Berkeley, Cal.

Petaluma Prophecies.

Mr. J. W. Horn writes to the California Promotion Committee about the poultry business as follows: "There are three characteristics which are absolutely neeessary to success in the poultry industry. These are industry, perseverance and cleanliness. Not every man possesses these three—in fact, few do.

"Go where you will among the hundreds of poultrymen in and around Petaluma, and I have yet to find the man or woman—and there are many women in the business—possessed of these essential characteristics who will deny that they are doing well.

"Petaluma's location is such that the inhabitants ean either ship by railroad or by the Petaluma creek, which furnishes a waterway connection with San Francisco and all parts of the coast, whieh results in very low freight rates, both on exports and imports. A 36-dozen erate of eggs ean be shipped to San Francisco and the crate returned for only 10 cents, and many poultrymen sell their eggs, the eonsumer paying the freight and the highest market price. The soil is a sandy loam, the ideal for chicken raising, and the land is rolling, thus affording good drainage

"To the man of limited capital the same difficulties present themselves as in other lines of business, making it necessary for him to begin small or carry a mortgage for a time; but we know of no line of business in which a man can get as good returns on his money as in the poultry industry, if he is successful. For instance, the finest kind of soil can be purchased within a radius of from 1 to 5 miles of Petaluma for from $100 to $300 per acre unimproved; with improvements for from $300 to $500 per aere. This soil will carry from 400 to 500 hens per acre, and $1 per hen per year profit is a conservative estimate, which means a return of your money in one year after your ground is stoeked. To make plain what I mean, let us say a man buys an acre of ground for $100; he buys 400 hens for $300, his ground and hens having cost him $400. Now, if he is at all successful, and this will depend entirely upon two things—his getting rightly located and his possessing the three essential characteristics to suceess in any business enterprise—he will make his hens net him $1 per year per hen, and, if so, at the end of his first year he has his one acre, 400 hens and $400 in his pocket; or, if he chooses, he has five acres instead of one, or four acres, and the other $100 invested in incubators and eggs, from which he will hatch 700 or 800 chicks. His broilers will pay for the raising of all, and he has his pullets clear."

CEREAL CROPS.

Decorative Art in Grain.

To the Editor:—We have been hearing a great deal lately about L'Art Nouveau and Moderne Kunst and the other new styles of decoration; but the Palace of Agriculture at the World's Fair contains examples of decorative art that are more wonderful than any that the chief of decoration designed for the beautifying of the exposition.

According to the textbooks, a decoration must be either an arrangement of light and shade—plastic ornament—or an arrangement of light and color, painted on a flat surface. The artists who had in hand the adornment of the State booths in the agricultural display paid no heed to the dictum of the teachers. They went to work with what were seemingly the most inartistic materials, and they have produced results that are absolutely astonishing for beauty.

There is positively nothing in the Palace of Fine Arts that is more harmonious in either line or color than the booths of Colorado and Idaho. These are genuine works of art, albeit they were neither modeled, carved nor painted. Since burned wood and leather and painted china have made good their claim to artistic classification, we may live to see the day when panels of grains and grasses will be entered for competition in art exhibitions.

The people who have not visited the Palace of Agriculture at the World's Fair are likely to think of the displays as mere aggregations of vegetables and other farm products. Nothing short of a visit to the long avenues of booths could convince them how far wrong their preconceived notions of an agricultural exhibit are.

There are pictures that look as if they had been painted by artists who were master draughtsmen and superb colorists—pictures that are composed entirely of the products of the farm in their natural colors. In the great and really marvelous Missouri exhibit one may see, in addition to some twenty of these grain pictures, two enormous landscapes, so realistically executed that it seems the horses and cattle could actually walk out of the picture. As the visitor catches a glimpse of these landscapes from the center aisle of the building, his first thought is that he is looking out through a window on a distant field, where corn is being cultivated or wheat harvested. In front of each picture is an area of earth where the picture is continued in actual fact. A crop of young corn is kept growing, and as soon as the plants become too large to harmonize with the background they are removed and others are planted in their place. The real part of the harvest picture does not need to be changed, for it is wheat that has passed the growing stage. In the midst of the field is a small model of a team of horses and a harvester at work.

The pictures that form an interesting part of almost all the booths are not the only decorations worthy of consideration. There are houses of prunes, eagles of corn husks and statutes of cotton and tobacco. Indeed, the most ingenious devices for producing variety have been employed. In the Illinois pavilion is a good portrait of Lincoln, in front of which are three old rails. Attached to these is a card which announces, "We have no evidence to prove that Abe Lincoln did not split these rails."

In many instances the pavilions themselves constitute the interesting and artistic part of the display, and the methods used in producing the decorative effect are little short of marvelous. For example, on the exterior walls of the Texas pavilion is the design of the Lone Star, with a circular picture for the center. The four pictures are typical of the industries and life of the State. In one, a cowboy is maintaining his seat on a bucking horse. The materials of which the background is made are corn husks and a few sugarcane tops. The very realistic hair of the horse's coat and tail is made of dry corn silk. The accessory ornament of the pavilion is all illustrative of the natural and manufactured products of Texas. There are cross sections of corncobs with their circle of white, yellow or red grains, and there are cross sections of sugarcane stalks, topped with tin caps of beer bottles. Heads of millet are arranged in the form of pinwheels, and the intervening surface of the booth wall is covered with a most stunning line decoration of twisted rope.

The Washington pavilion is a reproduction of the very original State building that stands near the Government bird cage. The background is covered with burlap that is dark green in color. Over this are festoons of dry peavines laden with yellow pods, radiating bunches of heavy topped wheat and heavy masses of other ripe grains.

These tied bunches of straw, finished at the top with the ripe grain, are wonderfully effective as a means of decoration. They have been used to excellent advantage in the Minnesota pavilion, where they serve as the frame for two really good oil paintings of farm scenes. The massed heads of the wheat, forming the immediate border of the painting, give the impression of a heavy dull gilt moulding.

The two booths of Indiana show many unique and effective devices. On the surface of dark green and dark red burlap several flat medallions may be seen. These are made of small white or yellow seeds, embedded in a thin coat of glue. For massed decoration of corner outlines the heads of broomcorn did service. One of the Indiana booths is different from all the others, in that it is surrounded by a flower garden—all made of grains and corn.

The Nebraska pavilion uses nothing but the entire ears of corn, in varied sizes and colors. There is none of the delicate tracery that adds charm to some of the other pavilions. The Nebraska lines are all architectural lines, and the effect is one of massiveness and strength.

The Missouri corn pavilion also makes lavish use of the entire ears. Inside the large room are designs of animals' heads and the two seals of the State and the United States, all done in ears of corn. In the panels of the exterior walls the most ingenious use of corn husks has been made. Indeed, this pavilion shows every possible manner in which corn could be used for the purpose of decoration.

The Virginia pavilion is one that attracts a great deal of attention. In architecture it is Byzantine, with one large dome and eight smaller ones. Cross sections of ears of red and white field and popcorn play an important part in the ornamentation. The design is all interwoven with peanuts and tobacco. Festoons of peanuts, strung like beads, connect the pillars, and on the walls are designs of twisted tobacco that resemble heavy brown cord.

Some of the Southern States have wrought the most interesting effects in cotton and tobacco, and there is not one pavilion in the entire group that is not well worthy of a call from every visitor in the Exposition grounds, whether he be interested in agriculture or not. Emily Grant Hutchings.

St. Louis, July 30.

SHEEP AND WOOL.

The Outlook in Mutton and Wool.

Evidently the slaughtering interest desires more sheep grown, for the buyer is not apt to glorify the outlook rather than discount it, as is the custom with short-sighted buyers. A case of this kind is cited by the Breeder's Gazette, although it innocently refrains from noting the fact that the long-sighted buyer is wise on his side when he exhorts growers to expand. Still there is much truth in the views which the Gazette credits to Robert S. Matheson, who controls the enormous mutton and wool department of Swift & Co. Reversing all precedent in buying opinion Matheson is a believer in higher values for both mutton and wool. The average buyer is characteristically and inherently a bear. If, in his judgment, appreciations are probable he is supposed to keep his views to himself. On this account a leader on the purchasing side of the market who not only believes that higher prices are assured for a long term of years, but gives logical reasons for taking that stand, is worth listening to. Mr. Matheson's position, stated briefly, is that while consumption of mutton is increasing, production is falling off; that maximum market receipts were reached last year — or will be this — for at least a decade; that farmers east of the Missouri are disinclined to engage in sheep breeding; that corn belt feeders can no longer depend on the Northwestern range to fill feed lots, and that the breeding of sheep is a self-evident avenue to at least moderate wealth. Condensed to epigrams Mr. Matheson's views are:

The Condition.—Sheep and wool production in the United States has reached its maximum point for a long time to come.

It takes nerve to hold a lamb that can be sold at 7½ cents a pound.

In-breeding and careless handling have practically wiped out the native sheep of the country.

Wool is so scarce that it would be less difficult to corner than was cotton last year. Sensational advances are certain.

Every farmer in the United States will consult his own interest by losing no time in laying the basis of an ovine flock by buying some pure-bred stock.

It is evident that owners of pure-bred sheep are about to face an enormous demand.

A big crop of hogs is easily raised. Sheep are a different proposition.

The farmer must get back into the business of sheep breeding before we can expect any increase in production.

The Cause.—"If the Gazette can arouse the farmers of the United States to the possibility for profitable industry in the field of sheep breeding it will do a valuable service," said Mr. Matheson. "We are face to face with a mutton and wool famine. To me this has been evident for five years past, and my prediction is that for half a decade and probably a decade to come both wool and mutton values will continue to advance. Reasons are logical and not difficult to assign. The principal ones are decrease in production and increase in consumption both per capita and by rapid growth of population. When I first became identified with the business twenty years ago very little lamb was consumed. Wool was the principal crop. It sold high and sheep were carried over several seasons to secure the clip. This applied not only to the region east of the Missouri, but to Western ranges in the initial stages of that industry. Up to ten years ago range lambs were practically unknown in market circles. In those days the whole eastern half of the United States was full of sheep. Indiana, Michigan, Ohio, New York and the New England States and Canada marketed an enormous wool clip annually, and Buffalo was the greatest market in the country. Then came the depression in wool and thoroughly discouraged farmers went out of the sheep business almost unanimously. Vast areas are now practically barren of sheep. The result is that the flocks of the nation have been reduced to an acutely low point. The country has not begun to realize how near we are to famine conditions. Wool is so scarce that no trouble would be experienced in effecting a corner. It is a staple; the whole world is short and we must have it. Australia's drouth has been a contributing cause; the war in South Africa another. We are merely beginning to feel the effects of this shortage and wool is scheduled to experience a sensational advance."

The Cure.—Asked how this extremity could be averted, Mr. Matheson said: "Only in one way, and that is by the farmer of the United States resuming breeding. He has been thoroughly discouraged, it is true, but there are endless opportunities open. We are getting few native sheep at market centers. Sections that once raised them in large numbers are all but depleted. Take Indiana, for instance. Not many years ago it was noted for the excellence of its flocks. Park county was a great sheep section, shipping nearly half a million pounds of wool yearly, yet last year three handlers were able to secure barely 50,000 pounds. Not only have native sheep been run out, but the Western range man is pursuing the same policy, and it takes little foresight to successfully predict results."

Agricultural Review.

Alameda.

GOOD HOP CROP IN PROSPECT.—Livermore Herald: Geo. Davis, superintendent of the Pleasanton Hop Co.'s hig yards, returned Tuesday from a trip through Sonoma valley. While absent he visited all the hop yards in the Ukiah and Hoplands districts, as well as those in Sonoma county, and found a very poor prospect for a crop. On his return he drove through the yards under his control and was gratified to find the prospects better than ever before at this season. Davis says the reports from the Washington hop fields, as well as those from England, indicate a short crop, so that the Pleasanton Hop Co. has another good season in prospect.

Butte.

GOOD RETURNS.—Gridley Herald: C. W. Thresher, the well-known orchardist and farmer, whose place is 2 miles east of Gridley, is well satisfied with his harley crop. From 120 acres he harvested hetween twenty-one and twenty-two sacks per acre.

BANNER WHEAT YIELD.—C. M. Gridley, who is farming the Henrison place near Biggs, reports that he finished harvesting ninety acres of wheat on Wednesday, from which yield he secured 1368 sacks. A littlo figuring shows this to be an average of fifteen sacks per acre, which is the hest heard of so far this season. It is a pretty safe guess that this average will not be exceeded this summer. The crop was on winter sowed land. For the benefit of our Eastern readers let us add that a sack contains ahout 2⅕ hushels, which would make the average read in Eastern measuremcnt, 35.46 hushels per acre.

Calaveras.

SUCCESSFUL PUMPING PLANT.—Stockton Mail: W. R. Gale, a stockman of Calaveras county, has installed a 10 H. P. gasoline engine, opened up a large well about 15 feet deep, and is pumping 10 miners' inches of water therefrom continuously into a number of large tanks, from which he draws water for irrigating a large area. The cost of pumping is very slight. He now has three acres of strawberries in full bearing, with ready sale for the entire product, as well as corn, potatoes, and every known vegetable in abundance. The power furnished by the gasoline engine is also used to run the creamery.

Fresno.

FRUIT BUYERS BUSY.—Sanger Herald: Fruit buyers are scouring the country in quest of fruit, hoth green and dried, the prices offered being generally acceptable to the grower and affording the latter a fair margin of profit. For dried peaches they are offering about 6 cents per pound. It is noticeable that some of these buyers speed over this section in automohiles, thereby saving much time and covering a larger area of territory in a day.

THE SMALL FARM.—Reedley Exponent: Carson Reid, who has a 12-acre vineyard ½ mile south of town, reports that he has turned in to the packing house this season 29½ tons of raisins, which is almost 2½ tons to the acre, for which Mr. Reid received $2200. This season's crop will bring him in over $2500. This is a ten-year-old vineyard and the land is what is called "white ash," is irrigated, and has a natural drainage. Each succeeding year finds this vineyard increasing in productiveness. J. M. Marshall of the Riverbend district, whose postoffice address is Reedley, has this year received $986.35 for his crop of prunes, the product of three acres. On the three acres he has 320 trees. The land is irrigated and has natural drainage.

Humboldt.

SWEET CREAM FOR THE CITY.—Ferndale Enterprise: What is termed commercial cream is now being shipped to San Francisco from Ferndale by A. Jensen, late of Kansas. This cream is carefully pasteurized, aerated and cooled by special machinery designed by Mr. Jensen, and leaves here absolutely germ free, and will keep sweet and pure for weeks. San Francisco offers an unlimited demand for pure, high-class cream, as well as fancy butter, and dealers are willing to pay a good round premium for strictly first-class goods.

Kern.

HONEY CROP LIGHT. — Bakersfield Echo: J. A. Bone, the hee man, says the Kern county honey crop will be very light this year. Ordinarily Kern is one of the largest honey producing counties of the State, the normal crop being about twenty-five carloads, or 375 tons. This year Mr. Bone says that seven carloads will about measure the crop. The shortage is due to worms and insects and other causes that have interfered with the honey bearing hlossoms. Southern California is reported to he in even worse state. with practically no honey at all. Notwithstanding the shortage in the crop in these two important sections the price has not yet advanced. A Fresno huyer offers 4 cents against 4¾ cents paid last year. The producers hope, however, that the market will improve hefore the summer is over.

MUSKMELONS.—Sweet Bros. are shipping Champion muskmelons to San Francisco at the rate of 200 crates per day. They have shipped altogether over 3000 crates this season. Their shipment last year for the whole season was ahout 3500 crates. The melons are reshipped to points as far north as Portland and as far east as Salt Lake City. Quite a quantity have heen shipped to Randshurg and Mojave, and one crate went as far east as Guam, N. M.

Kings.

PEACHES FALLING. — Hanford Sentinel: There is a peculiar and unusual condition of the peach orchards this year. Nearly all varieties of the fruit are falling from the trees in unusual amounts. One theory is that there have heen several hot nights following hot days, and the trees have not time to recuperate during the night, as they usually do, and can not hold their hurden of fruit.

GOOD CROP OF PEACHES.—M. Bassett has finished picking his Tuscan cling peaches. He has 140 trees of this variety in hearing and from them took twenty-five tons of fruit, which is an average of 357 pounds of fruit per tree. Mr. Bassett says these trees, when they make such a showing as this, are much more profitahle than freestone fruit.

Los Angeles.

RETURNS ON SEEDLINGS. — Pomona Progress: The Indian Hill Citrus Union has paid out its last dividend for the season on seedlings, except the final cleanup dividend, when all matters and claims pertaining to the season's business will have heen settled and the hooks closed. The dividend just paid makes the average on seedlings paid net to the growers 87½ cents a box. The final dividend is expected to easily bring the net returns up to 90 cents a box. Those who have had this season that variety of oranges, which have been losing favor in recent years, have fared much better than those who had Navels and marketed them early in the season.

Mariposa.

PEST DESTROYING YOSEMITE TREES. Sacramento Bee: In a report to W. H. Metson of the Yosemite Valley Commission, A. D. Hopkins, in charge of forest insect investigation, states that the pine weevil has attacked thousands of the yellow pine trees in the valley, and that to save growing trees the hark from those affected should be stripped and burned, otherwise all the pine trees in the valley will he destroyed by the weevil.

Mendocino.

SMALL CROP.—Ukiah Dispatch-Democrat: John Brown's thresher, after a run of only 6½ days, has been put in the shed. The amount of grain threshed by Mr. Brown in this valley will not exceed 10,000 hushels. The Crawford Bros. have threshed some, but the entire output of the valley will not exceed 20,000 or 25,000 bushels. Time was when grain was the principal product of the valley and the "run" was from 50 to 60 days. Fruit and hops have taken the place of grain and our farmers are better off for the change.

Placer.

DWARF CALF. — Rocklin Representative: A cow owned by Mr. A. Ross gave hirth to the smallest calf that ever came to Rocklin and lived. At a week old it was a little less than 16 inches high, measured 23 inches in length, and weighed fifteen pounds. It had to be taken from its mother and fed from a bottle, because the little fellow couldn't reach high enough to feed himself.

San Bernardino.

RETURNS ON NAVELS. — Sun: The Redlands Fruit Association, which markets its fruit through the San Bernardino County Fruit Exchange, has issued a statement showing the money received by its members for Navels during the season just closing. This statement shows that 6,834,142 pounds of Navels were received at the packing house, on which 93½c per hundred pounds has already heen paid to the growers, this being the net amount after deducting 40 cents per hox for packing and selling. There will be a further payment to the growers, which will probably bring the final amount up to $1 per hundred pounds for all Navels delivered at the packing house.

SHIPMENTS OF COLTON EXCHANGE.—The Colton Fruit Exchange is practically through with this season's packing, and the returns have heen fairly satisfactory to growers. From the Exchange there has heen shipped 318 carloads of fruit which gave, after all expenses were paid, a net return of $100,000.

San Joaquin.

BOUGHT LAND UNDER WATER.—Lodi Sentinel: George A. Smith of the draying firm of McNah & Smith of San Francisco has closed a deal for the purchase of 900 acres of land in the Terminous tract, near the town of that name. He secured the property far helow the market value, as there is at present 6 feet of water on it and it will he months hefore it is clear of water. Though he paid $35 an acre, it is claimed that it is less than half the regular price of property in that vicinity. Messrs. McNah & Smith have ahout 800 dray horses they have to turn out to pasture during each year and decided that they could make money hy purchasing the land and handling their own pasture. They use a certain numher of horses all of the time and at intervals rest them up hy turning them out to pasture, while those which have heen free until they fatten up are placed in service. In this way they keep up their stock and make a hig saving each year. Of late they have been investigating the advantages of the rye grass and have reached the conclusion that it is the hest pasture procurahle, and as soon as the water is removed from 300 acres of their Terminous land they intend to plant rye grass. The other 600 acres will he planted to rye grass as needed.

FULL OF PRUNES.—Lodi Herald: Dr. Armstrong sent in this week a branch from a prune tree in his Clements orchard which shows a heavy production of fruit. The hranch hore a cluster so thickly grown together as to resemble a huge bunch of large grapes. The hranch was about 20 inches in length and contained 109 prunes.

Santa Cruz.

ONIONS WORTH MONEY.—Watsonville Pajaronian: It is estimated that ahout 250 acres of land in Pajaro valley is devoted to onion growing this season. The crop as a whole makes a very good average, while some fields are exceptionally fine. Ahout two-thirds of the acreage was contracted for hy seedmen at planting time, the agreement heing that the seedmen would furnish seed and sacks and pay the grower 45 cents a sack on the cars here. The remaining one-third, however, is on the market and prices have gone skyward lately, as high as 1½c a pound—or in the neighborhood of $1.25 a sack—being offered the growers. Lawrence Struve, who has a fine crop of onions on the Chalmers place, has heen offered the above figure, and Henry Stoffers, who estimates his crop at 5000 sacks, has also received tempting offers. A portion of the Stoffers tract will average 300 sacks of onions to the acre.

Solano.

THOROUGHBRED SHROPSHIRE SHEEP. —Republican: Lamhie Bros., well-known farmers and stock raisers of the Montezuma hills, are entering upon the sheep raising industry in an intelligent and thorough manner. They have bought two thoroughbred Shropshire bucks. Both animals are large and perfect in every detail. A few months ago Lambie Bros. purchased from J. B. Hoyt a band of over 200 Shropshire ewes.

Sonoma.

THE HOP OUTLOOK.—Healdshurg Enterprise: Contracts have heen made in this county during the past two weeks for ahout 2000 hales, and the highest contract price that has been paid has heen 21c per pound. At the ruling price and the outlook for a large yield, the hog growers of Sonoma county are sure to reap a rich harvest from their hop fields this season. Notwithstanding the present favorahle figures, the hop growers are not contracting their crops very rapidly, some expecting a higher price.

Stanislaus.

BIG WHEAT CROP.—Modesto News: A banquet was given Monday night at the Palm restaurant in this city by W. D. Toomcs and J. J. McMahon at which covers were laid for fourteen persons. The feast was given as a sort of a celebration of the great crop harvested this year on the ranch of J. J. McMahon, which is heing farmed hy W. D. Toomes. The harvesting was finished Monday, and from 230 acres was gathered the greatest yield of the season — 3024 sacks, or an average of thirteen sacks to the acre. Salida district, where Mr. McMahon's ranch is located, has long held the palm as heing the hanner wheat producing section of Stanislaus county.

Tehama.

WATERMELON CROP A FAILURE.—Red Bluff special to Sacramento Bee: The watermelon crop is almost a total failure. At this time in the year wagon loads of fine melons should he coming into town every day, hut this year very few are seen. One grower who comes from Proherta, and usually has some fine melons, stated that he has five acres of land on the river hottom for which he pays a rental of $5 per acre, and that he did not expect to make his rent out of the melons. He did not know what was the matter with them.

COW BELLOWS FOR HELP.—Red Bluff News: As the steamer Red Bluff passed the Sacramento bar in the river nearly opposite the mouth of Antelope creek, Captain Peter Gonzales had his attention directed to a cow which ran along the hank, hellowing as if in mortal agony. The animal appeared to he in ship-shape condition and the master of the vessel had to seek some cause for the hovine's actions other than her own hodily pain. As the hoat rounded the turn the crew saw a calf floundering ahout in shallow water and unahle to get hack on the hank. Agent E. F. Lennon telegraphed to the Cone ranch as soon as the steamer arrived in this city and men were sent down to the Adobe ranch to rescue the calf from its plight.

SOME APPLES. — Corning Observer: Two harvest apple trees on E. I. Cole's place, southeast of town, hore over 700 pounds of fruit this summer, netting their owner in the neighborhood of $4 apiece. Mr. Cole grew Ben Davis apples on his place last year which kept until the first of July.

Tulare.

A PROLIFIC COW.—Register: As an evidence of what nature can do, may he stated the experience of a cow belonging to Hiram Pritchard, who lives 6 miles south of Tulare. Mr. Pritchard bought the animal when she was a calf five years ago. When she was two years of age she gave hirth to a nice healthy calf, the next year she bore two and the next year two more. Five calves within three years is a pretty good record for one cow.

VALENCIA ORANGE CROP.—Lindsay Gazette: The Valencia orange crop has all been shipped and the citrus fruit shipments thus far for the year amount to sixty-eight cars, six cars less than at the same date last year. The Valencia crop was light this year, but the Navel crop coming in is said to be excellent and a large increase of fruit over last year is expected. The large acreage of buds will commence bearing this year which will increase the output considerahly also.

Oregon.

DIPPED 18,000 SHEEP.—Lakeview Examiner: At Joe Ambrose's dipping vats during the spring 18,000 sheep were dipped, and 11,000 of that numher were dipped twice. The total cost of materials for dipping was $279—for sulphur thirty-three sacks at $5.50 per sack, seven barrels of lime at $7.50 per barrel, and $36 worth of sheep dip.

Horse Owners! Use

GOMBAULT'S



Caustic Balsam

A Safe, Speedy, and Positive Cure

The safest, Best BLISTER ever used. Takes the place of all linaments for mild or severe action. Removes all Bunches or Blemishes from Horses and Cattle. SUPERSEDES ALL CAUTERY OR FIRING. *Impossible to produce scar or blemish*

Every bottle sold is warranted to give satisfaction Price **$1.50** per bottle. Sold by druggists, or sent by express, **charges paid,** with full directions for its use. Send for descriptive circulars.

THE LAWRENCE-WILLIAMS CO., Cleveland, O.

Colony Tracts in Stanislaus County.

We are laying out two Colony tracts, one close to Modesto City, in that Irrigation District, and one in the country part of Turlock District, 5 miles south of Ceres. In both of them we can sell you good land, in small lots, on terms to suit. If that is what you want, we shall be pleased to hear from you.

MAZE & WREN. Modesto, California.

The Home Circle.

The Spring.

Beside the road a poplar stands,
Sturdy of trunk and limb;
A modest rock beneath its shade
Offers a flowing brim
Of water sparkling, cool and clear,
From depths unknown and dim;
But grateful to the thirsty guest
Who, craving of life's gifts the best,
Finds here refreshment, pure and meet,
To cool the lips now parched by heat,
And send him on his way with praise
To Nature's God and Nature's ways.

If you could push ajar the gates of life
And stand within, and all God's workings see,
We could interpret all his doubt and strife
And for each mystery find a key!

But not to-day. Then be content, poor heart!
God's plans like lilies pure and white unfold:
We must not tear the close-shut leaves apart;
Time will reveal the calyxes of gold.

And if, through patient toil, we reach the land
Where tired feet, with sandals loosed, may rest,
When we shall clearly know and understand,
I think that we shall say, "God knew the best." —The Gateway.

A Case of Kidnapping.

Dora pushed back her sunbonnet, and looked up, with furtive admiration, at the stalwart figure giving the finishing touches to the huge load of hay.

"Ethel had to help about dinner and couldn't get away, but she made me come. She said it was too bad for you to have no company for the last load."

"I am sorry you were compelled to come," he replied, a little stiffly.

"Oh, I wanted to; I wouldn't have missed it for anything. I was never on a load of hay. But merey! how shall I ever get up there?"

He glowed at her warmth, but with a brief "I'll help you up," he slid to the ground, placed a short ladder against the load, preceded her, and reached for her hands.

With little shrieks of alarm, and declarations that she could never do it, Dora at last gained the top of the ladder and put her hands in his. His heart leaped fiercely, and he paled a little under his tan, but made no sign of the tumult her touch aroused within him.

But she was as well aware of it as he, and with malicious intent, clung to him in affected fright, noting, with pleasure, his suppressed agitation. It was a short ride from the field to the hay barn; besides, he had the horses to attend to, so there would be no chance for him to go beyond the limit she had set for him, and ask the question she had been fencing for weeks. She was not sure that she was ready to be bound; but she was certain that she did not want to give him a negative answer. She wished to postpone it; besides, there were "others," and she being a born coquette was enjoying herself and did not want a definite change.

With much skill she had played him and evaded his efforts to obtain an opportunity to bring matters to a crisis. She meant him no harm; she reasoned that a little suspense would perhaps do him good, and she loved the excitement of the game and reveled in the narrow escapes she contrived to experience.

"This is the last of the hay, now there is nothing to prevent you joining our tennis party this afternoon," she said, cuddling down in the hay at his feet, while he stood easily and firmly, guiding the team through the gate into the big road.

"If you will be my partner," he replied, sitting down beside her, letting the horses, now they were through, go their own gait.

"But I've promised Harry Payne; and Jessie Carpenter plays much better than I—besides, she is always trying to get you," she insinuated, demurely.

"Hang Harry Payne, and Jessie, too, for that matter! See here, Dora—"

"Oh, there's Ethel on the porch waving to us," she interrupted hurriedly. "Harvest home! Harvest home!" she shrieked as they passed the house, scrambling to her feet, with one hand on his shoulder. The wagon lurched, and she dropped down again, flushed and laughing, and began scattering hay over him. He did not respond, but sat with averted face.

"Crosspatch!" she said, lightly. "He wants his dinner, so he does! Well, it will not be long, now. Dinner is to be unusually early on account of our party; the men are going to the house."

He was still silent, and she pouted. Suddenly she shrieked again: "Why, Nat Bruner! you've passed the gate—it's away back there! Didn't you see it?"

"I didn't want to see it," he said, shortly.

"What do you mean?" she cried.

"I mean that you're not going to get away from me this time till I've had my say!"

"I won't listen! I won't listen!" She thrust back her bonnet and put both hands over her ears.

He drove on quietly, with no attempt to coax or compel her attention, down a long hill, up the other side and around a corner.

"It's all right, boys," he said to the horses, as they turned their heads, with an inquiring look, when the noon whistle blew at the village. "It's all right," and they plodded along soberly, perhaps reflecting on the unreasonableness of a master who set off to market from a hard forenoon in the field, without dinner.

Dora sat, obstinately stopping her ears, and watched the long mile slip by, then another, and he showed no sign of relenting. Once he turned, saying politely, "I am afraid the sun is making it rather uncomfortable for you. I am sorry I have no umbrella."

Though she did not hear, of course, she scowled an answer.

They made several turns, and she noted, hopefully, that they seemed going in the direction of the farm. He was giving it up? Not so! To her consternation, they finally came out in the broad road, headed for the village.

"You're just scotching me," she complained.

"Well, you've scotched me often enough," he growled.

Being so near noon hour they had seen few people, but now, down the road a crowded wagonette whirled toward them, the tennis party from the village. She jerked her bonnet over her face and tumbled flat on the hay, moaning:

"Oh, I wouldn't have them see me for a million dollars!"

When they had passed, with gay banter at him for deserting them, she straightened up with blazing cheeks and the fire of battle in her eyes.

"It's the silliest, the most ridiculous thing I ever heard of! And you're the meanest, meanest man alive! I should think you'd hate yourself to death!"

"I don't aspire to great wisdom or perfection," he returned, serenely, driving on.

"You know how I've looked forward to this afternoon, and what plans we've made for it!"

"If you hadn't systematically disarranged so many of my plans I might be more considerate of yours."

"It's so contemptible, your trapping me like this.

"You came voluntarily. I've a right to market my hay when I please."

"You don't mean—" But they were entering the village, and she crouched down again out of sight. He did not stop, and when they had left the last house behind, she began, piteously:

"I was never so hungry in my life! I'm positively faint!"

"You'll know how to sympathize with the poor, then," he suggested.

"You don't care how much you make me suffer, and you profess to—" She broke off in some confusion, conscious that she was to near the brink.

"Yes, I profess to love you," he finished for her. "I've never tried to hide it—and I suppose, after all, there is little need of words. I ought to have understood without having it said. You've shown me plain enough that it is useless, and yet—" he halted, meditatively. Some intuition within him declared that she was not so indifferent as she had assumed to be.

"No," he continued, "I will have it in words! Dora, you know I love you devotedly, with all my heart; will you be my wife?" He turned to her with a deep tenderness in his face and shining in his serious eyes.

"Cousins can't marry," she evaded.

"My step-mother's niece isn't a very close cousin," he commented. "But I ought to thank you," he went on, presently, with a rather wan smile. "You might have been more harsh in your refusal of me."

He turned the horses about, saying: "You will not be very late at the game." Then he turned his back in a stolid silence. If he suffered, she should not see it.

The minutes passed slowly as the horses jogged along the hot, dusty highway. The sun poured down its scorching rays. Nat sat at his post like a graven image, oblivious alike to the blistering heat and the presence of his pretty and unwilling passenger.

The silence was broken by a storm of sobs from Dora. He writhed anxiously, until he could bear it no longer, and burst out:

"Don't cry, Dora, darling! I'm a brute, a perfect beast! I don't know how to treat a girl, even when I love her so—you did right to refuse me!"

But—but—I haven't refused—y—you! I said cousins co—couldn't marry—I didn't say."

"Dora!" he spoke sternly. "You must not play with me any longer, I can't bear it."

"I'm not playing now. But if you—you don't want to understand—or if you—you think I'm going to say 'Yes!' any pl—plainer—"

She sobbed the rest on his shoulder. —Louise G. Strong.

Three Meals in One.

A farmer living not far from Philadelphia sent to an employment agency in that city for a farm hand. The ageney notified the farmer that one William Collins would arrive at his place the following morning in time for breakfast. William arrived as promised and in excellent season, but not quite early to assist with the milking. He was about 7 feet tall and slim as a hay fork.

When he took his seat at the breakfast table and really got into action the members of the family laid down their knives and forks and stared. It was evident that William had missed several meals before he arrived, for he put away everything in sight.

"Perhaps you had better eat your dinner, too, while you are here," suggested the farmer, sarcastically, as he observed his new hand looking wistfully at the empty plates.

"Maybe it would be a good idea," said William, in a pleased tone.

The farmer's wife cooked more food and placed it before him. His dinner disappeared with the same rapidity as had his breakfast. But when he had finished he made no motion to leave the table.

"Probably you could eat your supper now, also," said the farmer, whose amazement had given place to wrath.

"I'm sure of it," answered William, and he waited contentedly until the farmer's wife cooked and set before him his supper. When this, likewise, was gone the farmer said, peremptorily, "Now, get to work as fast as you can."

"Oh, no," said William, as he arose leisurely from the table, "I never work after supper."—Caroline Lockhart in Lippincott's.

Counting a Hen's Feathers.

A very unique feather guessing contest was actually conducted by a prominent company manufacturing feed for poultry. Five hundred dollars in prizes was offered for the best estimates or guesses as to the number of feathers on a hen. The first prize was $100.

Thousands of guesses were received, including some very amusing ones. One party, who was probably looking for some "catch" scheme, estimated "none at all." Many estimates in the hundreds of thousands were received, several in the millions, the highest estimate being 600,060,017. The correct number was found to be 8120. The company says: "We feel a pardonable pride in having contributed to poultry science an item of information actually new."—August St. Nicholas.

The Healing Power of the Sun.

Man is naturally an outdoor animal. The tropics being his natural home, he lives in cold countries only at the expense of an enormous outlay of labor, and probably also with a very considerable shortening of his life.

The value of outdoor life is best appreciated by those accustomed to sedentary life when opportunity is afforded for them to spend a few days in the open air. It needs no lengthy argument to demonstrate to such a person the value of continuous outdoor life as a health promoter. The value of such a life does not consist wholly in the purity of the air and the exercise, matters of great importance, but also in the cooling effect of the air in motion, and especially in the vitalizing influence of the sunshine.

The rays of the sun, says Dr. J. H. Kellogg, contain heat and chemical rays as well as light rays. The heat acts powerfully upon the glands and vessels of the skin, while the chemical rays influence the nervous system in a remarkable way. It is the chemical rays which cause so-called sunburn.

The marvelous energy manifested in plant life is derived from the sun acting upon the green parts to organize and vitalize the elements of the earth and air into living substances. The same energy of the sunlight is essential to a animal life. The sun bath is now a well recognized and much valued therapeutic agent.

In this form of treament the whole body is exposed to the direct action of the sun's rays. Persons who are not accustomed to expose to the sun, and individuals who have light hair and light skins, should make the first exposure to the sun of short duration—ten or fifteen minutes. Longer exposures are likely to produce sunburn. No particular harm is done by sunburn, excepting the inconvenience occasioned by it. The pigmentation of the skin induced by sunburn protects the skin from further injury.

The body may be exposed either in the open air or before a window. When the sun's rays are so intense that the heat is depressing, the heat rays may be filtered out by means of a blue screen placed between the patient and the sun.

After the sun bath a cold plunge, a cold shower, a cold towel rub, or a wet-sheet rub should be administered to tone the skin and the nerves.

In the summer time in a hot climate the sun bath may be very conveniently taken in an outdoor gymnasium. A sand pile furnishes a most appropriate couch, as the heat which it accumulates may be utilized as an aid to induce perspiration when this is desired.

Every home should be provided with a convenient place for taking the outdoor sun bath in the summer time, and sun bath indoors during the cold season. Civilized human beings suffer greatly because of the seclusion from the sun occasioned by modern modes of life. Those who reside in cities, like the cave-dwellers of the olden time, are by their opaque walls and shaded windows almost excluded from the sun. The results are shown in the pale faces of old and young, the rickety children, the growing prevalence of consumption and other constitutional maladies, the increase in deformities and degenerations, and other evidences of race deterioration. Out-of-door life and a return of the simple habits of our ancestors is the only way in which the race extinction to which we are at present rapidly hastening can possibly be ed.

The sun bath is useful in almost every form of disease in which an acute febrile

process is not present. It is especially valuable in neurasthenia, all forms of dyspepsia, rheumatism, diabetes, gout, skin disease and chronic maladies of every sort.—Health Culture.

Music Cure for Worn Nerves.

"I am taking the music cure," said the pretty girl with the mandolin case under her arm. "I go once a day for fifteen minutes. I am learning how to quiet my nerves and cure my ills by the making of sweet sounds.

"Do I play the same harmony for all my aches and pains? Oh, no.

"There are sounds that drive away the blues. There are other sounds that encourage pious thoughts. These are the Sunday tunes. They bring you to a proper frame of mind. I play these when I am tempted to flirt or to be cross to mother.

"Then there are distinct harmonies for active pains. There is a melody which works upon neuralgia and another one which has a marvelous effect upon the toothache. Rheumatism and all acute pains of the purely nervous system can be put to rout by the right chords.

"This is really nothing very new. In Bible times the women cheered their souls by music, and there is more than one mention made of curing sickness with sweet melodies. I think it is one of the great coming cures.

"I enjoy taking my music lessons and I am getting better every day. I used to get up in a blue haze. But, when this happens now, I get out my mandolin, and by breakfast time I am in good spirits.

"How does it work upon the rest of the family? Why, in the same manner. Only more so.

"When stocks went down I operated on father and the furrows went away as he listened to my playing.

"But that isn't a circumstance to what I did for mother's indigestion. One day I played for her while she ate her supper off her tray. The next night she was able to come down to supper and after that she steadily improved.

"There are regular chords for blues, others for pain, others for evil thoughts and others to promote good feeling."

But music will not do everything. Here are the "musts" for the amateurs who are taking the musical cure.

Learn the chords and melodies that best suit your moods.

Be unselfish and treat others as well as you treat yourself.

Eat white meat and the flesh of fish.

Confine your vegetarian diet to those fruits that ripen in the sun and to vegetables that grow on top of the ground, not underneath.

Do not associate with people who affect you unpleasantly.

A sanitarium has been opened in Berlin for the treatment of nervous patient by musical sounds.

The patients can eat what they like and drink all they can get. They can walk, run, jump, drive or ride, and no one will say them nay. They can talk, sleep or lie awake, and there will be no one to call them or give them medicines.

But if these are negative rules, there are certain positive ones. And the first of these is that the patients may not go outside the grounds, which are quite spacious.

The object of living in the grounds is apparent to the most casual visitor. At opposite ends there are stationed musicians, who play sweet music. At no places in grounds is one entirely free from the concords of sweet sounds.

The music is not loud. But if one listens, he catches from afar the strains of a band.

Within the house the patients are provided with all kinds of musical instruments and are invited to play. New music lies around, and there is music at every meal of the day, and in the evening there is a concert in the parlor.

One rule is placed upon all who enter. No patient can become a member of this family who is not fond of music. It might be called a music cure, though it is a rest cure.

A feature of this rest cure besides its music is its silence. The patients are required to keep silent at least two hours in the morning and two hours in the afternoon. The object of this is to rest the nerves.

"Nothing," says the physician in charge, "tires a patient like talking. The patient who is worn out, tired, suffering from disturbed mind and general agitation of the nerves, will recover if she will keep quiet.

"We had a case of insomnia a while ago. The woman talked incessantly. She was vastly entertaining, but it wore upon her nervous system and nearly wore her out.

"We put her upon the quiet diet. We had her keep still nearly all day. For two hours she could talk. Then we had her keep still. Fortunately she was a musician and loved to play the mandolin, so she was not lonely.

"In a few days she began to sleep, and when night came she was ready to sink into a nice, sound slumber. It was slowly but surely curing her, this enforced quiet.

"There is a great difference in women. It injures some to talk, while it helps others. There are people to whom conversation is the very breath of life.

"Others are under a nervous strain all the while they talk. It is a very wearing thing, this nervous talkativeness, and the woman who is afflicted with it should call a halt and stop completely for a while."—N. Y. Sun.

Domestic Hints.

Boiled String Beans With Butter.—Boil the beans wanted till tender, drain well and put in saucepan, with a liberal amount of butter, to heat. Season with pepper and salt, and send to table. In place of the butter thick cream may be used if preferred.

Strawberry Mousse.—Press through a sieve a sufficient quantity of strawberries to obtain half a pint of juice, and put this into a freezer, with three-quarters of a pound of sugar and a quart of cream. When it is just about half frozen stir in half a pint of cream whipped stiffly, take out and put in a mould. Pack it in ice and salt, to remain at least two hours before serving.

Fresh Fish Cakes.—Have ready mashed potato, either hot or cold, and to two cups of this allow two tablespoonfuls of butter and one egg. Put with the potato an equal quantity of flaked fish—baked or boiled—and mix thoroughly. If there is no fish sauce with which to moisten the mixture and it seems too stiff, soften it with a very little milk. Form into cakes, fry slices of bacon in their own fat, and after taking them out fry the cakes in the fat that is left in the pan. Keep the bacon hot while the cakes are cooking, and serve it on the same dish with the fish cakes.

Hard Crabs Stuffed With Mushrooms.—Soak the crab for twenty minutes in salted water. Take out and boil for fifteen minutes. When cool remove all the crab meat and cleanse and wipe the shells. Cut into fine bits all the desirable meat of the crabs and put into a frying pan in which a shallot has been fried in butter, taking out the shallot. Stir in as much flour as the butter in the pan will absorb, and moisten with cream. Add half as much chopped mushrooms as you have of crab meat, and cook for two or three minutes. Put the mixture into the crab shells, put melted butter over the top of each, sprinkle breadcrumbs over, and brown nicely.

Refreshing Dessert.

In our house, milk sherbet is the most popular dessert on the hottest day of summer and the coldest day of winter. To make it, you take one quart of rich milk, three lemons, three-fourths of a pint of granulated sugar, one tablespoonful of granulated white gelatine.

Put the gelatine to soak in half a cupful of the cold milk, putting the remainder of the milk to boil in a farina boiler with half the sugar; stir well. When it boils, add the soaked gelatine, remove from the fire, and stir until all is thoroughly dissolved. Strain into the ice cream can; put away to cool. While it cools prepare the flavoring thus: Wash the lemons well, dry them, grate the rind of one and squeeze the juice of three in a dish, add the remaining half of the sugar, stir and mix thoroughly; stand in a cool place until needed.

Pack the tub in which the freezer is placed in the regular way with very finely broken ice and coarse salt. Pour the lemon and sugar into the prepared milk; cover and freeze in the ordinary way, which will take from fifteen to twenty minutes. Remove the dasher, put away, and give at least one hour to ripen before using. If these directions are followed exactly, the result will be most satisfactory, producing a delicious and inexpensive dessert for five or six persons.—Table Talk.

Brown Eggs and White.

It is doubtful whether the color of the shell bears any relationship to the nourishing quality of the egg. As those who rear poultry know, it is merely an indication of the strain of the laying bird. There is probably not the slightest difference, from the nutritive point of view, between the naturally brown colored egg and the white one. There is most probably, however, an important dietetic difference between two eggs, the yolk of one of which is a very pale yellow color and that of the other a rich, almost reddish color. It is a notorious fact that the country-produced egg may usually be placed under the latter description, while the egg produced by the hen who is under an unhealthy and limited environment shows an anæmic color, generally a very pale yellow. The substance which contributes color to the yolk of the egg is iron, just as it is iron which gives color to the blood, and there seems to be little doubt that the iron compound in the yolk is of a similar nature to that of the blood. It is easily assimilated, and eggs are regarded as a suitable food for the anæmic person, as they present a concentrated and generally easily digested form of nutriment rich in iron. The amount of iron in the yolk of an egg would appear to increase with the intensity of its color, and there can be little doubt that the maximum is reached in the richly colored yolk of the egg produced by a fowl existing in healthy surroundings, for then its processes of nutrition would be working under very favorable conditions. As an article of diet, therefore, the egg should be judged, not by the color of its shell, but of the yolk, which should be of a rich reddish rather than of a pale yellow color.—Lancet.

THE BEST!



Golden Gate Leaf Lard
(FOR CAKE OR PIE);
Monarch Hams
(TO BOIL OR FRY).



Western Meat Company,
SAN FRANCISCO.

GLENN RANCH,
Glenn County, - - California.
FOR SALE
IN SUBDIVISIONS.

This famous and well-known farm, the home of the late Dr. Glenn, "the wheat king," has been surveyed and subdivided. It is offered for sale in any sized government subdivision at remarkably low prices, and in no case, it is believed, exceeding what it is assessed for county and State taxation purposes.

This great ranch runs up and down the west bank of the Sacramento river for 15 miles. It is located in a region that has never lacked an ample rainfall, and no irrigation is required.

The river is navigable at all seasons of the year, and freight and trading boats make regular trips.

The closest personal inspection of the land by proposed purchasers is invited. Parties desiring to look at the land should go to Willows, California, and inquire for P. O. Eihe.

For further particulars and for maps, showing the subdivisions and prices per acre, address personally or by letter,

F. C. LUSK,
Agent of N. D. Rideout, Administrator of the Estate of H. J. Glenn at Chico, Butte County, California

83 - ACRES - 83

Why not invest in a good general farm, 2½ miles from Stanford University, just in the foothills?

Splendid spring and small creek, plenty of wood. The best of orchard and vineyard land. Cereals, alfalfa and vegetables grow to perfection. Healthful climate. Poultry of all kinds thrives here. Quick market for all produced. Would make a summer or winter resort. Good and romantic road to place. House 11 rooms and large barn. This fine property must be sold. Investigate and if interested apply at once. Price $11,500.

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The Markets.

San Francisco Produce Report.

San Francisco, August 3, 1904.

CHICAGO WHEAT FUTURES.

Wheat futures in Chicago were as follows for the week named, price being for No. 2 Red per bushel:

	Sept.	Dec.
Wednesday	88⅝@ 90¼	87⅝@89
Thursday	88⅝@ 89¾	87¾@88¾
Friday	89⅛@ 90⅝	88⅛@89¾
Saturday	91⅜@ 90¼	90¾@89½
Monday	89⅞@ 91⅞	89 @91
Tuesday	92⅛@ 94¼	91⅛@94⅛

CHICAGO CORN FUTURES.

Prices of futures on No. 2 corn per bushel in Chicago were as follows for the week:

	Sept.	Dec.
Wednesday	49⅝@50	45⅞@46⅜
Thursday	49¾@49¼	46 @45¾
Friday	49¼@49¾	45⅝@46
Saturday	49¾@49¼	46⅛@45¾
Monday	49⅜@51⅛	46½@47⅛
Tuesday	51 @53¼	47¼@49¼

SAN FRANCISCO WHEAT FUTURES.

The range of values in San Francisco for No. 1 White wheat per cental was as follows:

	Dec., 1904.	May, 1905.
Thursday	$1 39½@1 38½	$——@——
Friday	1 39¼@1 40¼	——@——
Saturday	1 41¾@1 41⅛	——@——
Monday	1 42 @1 43¼	——@——
Tuesday	1 44 @1 47	——@——
Wednesday	1 44¾@1 45⅞	——@——

Wheat.

The market has been decidedly firm most of the time since last review. Most of tho buying is being done in the interior and at relatively stiffer figures than are quotable here. Shippers and speculative dealers, through their representatives in the country, are losing no opportunities to secure wheat at prevailing values. Especially is this the case with large lots of desirable quality. Choice milling wheat is not readily obtainable in the local market in anything like wholesale quantity, and there is no great amount of wheat being presented for sale which fills the bill on export account as strictly No. 1. One part cargo of 560 tons was clearod from here the past week for Europe, being the only clearance from this port for the ontire month of July. In grain charters there is nothing doing, ship owners asking 22s. 6d. to Europe, usual option, and oxporters refusing to pay the figure. Thero are only five ships now on the engaged list, but the disengaged tonnage now in port is sufficient to carry 150,000 tons wheat, besides a fleet headod this way good for 500,000 tons more. The fleet now in harbor is likely to prove more than ample for all the wheat that will be shipped from San Francisco the current season. There was considerable excitement in the Chicago market on Saturday last. Shorts were compelled to pay for July wheat as high as $1.00½ per bushel. At samo time Dec. wheat on the local board touched $1.41¾ per cental. Chicago continued strong and excited Monday, and there was further improvement here, both in the spot and speculative markets. Dec. wheat advanced to $1.43¼. In the open market No. 1 shipping alongside was quoted up to $1.45, and $1.60 was asked for choice milling. Tuesday the speculative market was still firmer, Dec. closing at $1.46, but spot wheat was without material change. Dec. wheat yesterday was slightly easier, but spot market closed firm at quotations.

California Milling	$1 45	@1 55
Cal. No. 1 shipping, alongside	1 35	@1 40
Oregon Club	1 35	@1 40

PRICES OF FUTURES.

During past week the range on options was:
December, 1904, delivery, $1.38½@1.47.
May, 1905, delivery, $——@——.
Wednesday, at the forenoon session of Exchange, December, 1904, wheat sold at $1.44¼@1.45⅞; May, 1905, $——@——.

Ocean freights and prices for wheat, as compared with a year ago, are as follows:

	1903-04.	1904-05.
Liv. quotations	6s7½d@6s8d	–s–d@–s–d
Freight rates	12½@14s	20½@—s
Local market	$1 47½@1 50	$1 35@1 40

LOCAL STOCKS OF GRAIN.

Stocks of grain in near-by warehouses on Aug. 1 and July 1:

Tons.	Aug. 1.	July 1.
Wheat	*23,586	25,523
Barley	†18,397	6,662
Oats	634	790
Corn	285	429

*Including 7,181 tons at Port Costa, 15,852 tons at Stockton.
†Including 8,988 tons at Port Costa, 7,197 tons at Stockton.

Stocks of wheat in near-by warehouses on the 1st inst. show a decrease of 1937 tons for the month of July. A year ago there were 16,458 tons of wheat in nea r-b warehouses.

Flour.

The market gives no evidence of quotablo improvement in values, although there is a firmer tone, in consequence of the recent advance in prices of wheat. Stocks of flour in this center are tolerably heavy, much of it being from outside points. Some large shipments have been lately made to the Orient, but export movement in that direction has been brought to a standstill, the steamship lines now refusing to carry flour to ports within the war zone.

Superfine, lower grades	$3 15	@3 25
Superfine, good to choice	3 25	@3 50
Country grades, extras	4 00	@4 30
Choice and extra choice	4 30	@4 60
Fancy hrands, jobbing	4 50	@4 80
Oregon, Bakers' extra	3 50	@4 00
Washington, Bakers' extra	3 50	@4 15

Barley.

While there have been no very pronounced changes in quotable values or the general tone of the barley market since last report, there is a brisk demand for good to choice, and tendency of prices for stock of this description is to firmer rather than to easier figures. Much of this season's barley is badly pinched, and that there will be enough choice for all shipping and home demands is doubtful. A part cargo of 2267 tons, valued at $52,-145, was cleared for Europe on Thursday last. In the speculative market No. 1 feed, Dec., sold up to $1.08½. The spot market at close inclined against buyers.

Feed, No. 1 to choice	$1 05	@1 07½
Feed, fair to good	1 00	@1 05
Brewing, No. 1 to choice	1 07½	@1 15
Chevalier, No. 1 to choice	1 20	@1 30
Chevalier, common to fair	1 00	@1 10

Oats.

There aro tolerably free arrivals of California oats, mostly of the Red variety, for which there is a good demand, and market is moderately firm at current values. Recent receipts from Oregon and Washington have been of light volume, but increased shipments from abovo sections aro looked for in the next thirty or sixty days.

White oats, fancy feed, old	$1 32½	@1 35
White, good to choice, new	1 25	@1 32½
White, poor to fair	1 20	@1 25
Milling	1 25	@1 30
Black oats	1 15	@1 30
Red, fair to choice	1 15	@1 32½

Corn.

Stocks of Eastern corn are of moderate proportions, as compared with tho current demand, but there is not much domestic product of any description now offering. Quotable values aro at a little higher range than for several weeks past, with market firm for straight yellow or white of prime to choice quality.

Large White, good to choice	$1 47½	@1 52½
Large Yellow	1 47½	@1 52½
Small Yellow	1 60	@1 65
Egyptian White	1 30	@1 35
Egyptian Brown	1 22½	@1 27½
Eastern, in hulk	1 37½	@1 45

Rye.

Recent arrivals have shown some increase, but market cannot be termed favorable to buyers. There is very little rye of good quality obtainable under $1.25.

Good to choice, new	$1 25	@1 30

Buckwheat.

The wholesale market is bare of this cereal. Choice could be readily placed at $2.25 or more.

Beans.

Market continues decidedly firm for Pinks and Limas. Stocks of Pinks are light and the coming crop of Limas is likely to prove of comparatively small proportions. Tendency on Bayos has been to a little more firmness, in sympathy with Pinks. Market for Blackeyes is rather firm at unchanged quotations. Not much doing in white beans, but they are being, as a rule, steadily held. Stocks of beans on wharves and in regular warehousos on 1st inst. aro reported at 63,841 sacks and on July 1st wore 73,717 sacks.

Pea, fair to good, 100 lbs	$2 90	@3 15
Small White, good to choice	2 90	@3 15
Large White	2 40	@2 55
Pinks	3 60	@3 70
Bayos, good to choice	2 40	@2 55
Red Kidneys	4 50	@5 00
Reds	4 25	@4 75
Limas, good to choice	3 35	@3 45
Black-eye Beans	2 10	@2 20

Dried Peas.

Stocks of all descriptions of dried peas are light, both domestic and imported. Generally stiff prices are being asked, but buyers are not disposed to take hold freely at extreme figures.

Green Peas, California	2 50	@3 00
Niles Peas	2 50	@3 00
Garhanzos, Large	2 75	@3 00
Garhanzos, Small	2 25	@2 50

Hops.

The local markot remains quiet, with spot offerings not particularly heavy and no very active demand. For new hops to arrive the market is moderately firm at 19@21c. for good to choice, but growers as a rule are not inclined to contract at these figures. The crop in this State is reported to be maturing about as well as could be reasonably expected. The Puyallup Valley Tribune says of the Washington crop: "While present conditions are favorable for the Washington hop crop, the indications are that the yield for the State this year will fall 2000 bales short of that of 1903. The arms are about the same length as on last year's vines, but the joints are 2 or 3 inches farther apart. The result is that the yield will fall short of last year. Moreover, in some of the yards the early bloom toward the tip of the vine was affected by the sun before the recent rain. There was not enough moisture in the ground to send sufficient sap to the extreme ends. The crop for 1903 in Washington was 37,000 bales. For this year it is estimated at 35,000 bales, of which 15,000 bales will be raised at Yakima and 20,000 bales in Western Washington. There is a good demand for contracts, 20c. being freely offered. Growers are quite reluctant sellers. The Oregon crop, which was estimated in the early part of the season at 115,000 bales, is now estimated at 90,000, and this may be further reduced." The New York Producers' Price Current says: "The market this week has been dull and but few sales are to be reported. To effect business prices would have to be cut materially, and we make reduction in the range of quotations. Brewers report an exceedingly good business the past week and there is no question but what they are cutting into their supplies. Reports from New York State continue to bo good, with excellent growing weather. Dealers are offering to contract on the coast at prices ranging from 18@20c., but growors do not show much inclination to close at these figures. Reports from England claim a week of splendid sunshiny weather; in fact, it has been so warm both there and in Germany that they are now crying for rain. The English estimate of 450,000 cwts. has not been changed."

California, good to choice, 1903 crop	25	@27½

Wool.

Tho market is strong in tone, but in the absence of noteworthy offerings at present from first hands there is little upon which to base quotations. Most of the wool which has recently changed hands hero has sold at a higher range of values than below quoted. The steamer San Juan, sailing on July 31st, carried 249,738 lbs. wool for New York.

SPRING.		
Northern, free	22	@—
Northern, defective	17	@20
Middle Counties, free	18	@21
Middle Counties, defective	15	@17
Southern, 12 months	—	@—
Southern, 7 months	—	@—
Spring Lamb, Northern	15	@17
Spring Lamb, Southern	12	@14
Oregon, good to choice	20	@22
Nevada	14	@20

Hay and Straw.

Receipts of hay have been considerably ahead of the demand, and the market has shown demoralized condition for nearly all descriptions, especially for other than most select qualities. Most buyers are not purchasing ahead to any great extent. Tho market may incline more in favor of sellers later in the season, but prospects are not encouraging for any marked improvement in the near future.

Wheat, good to choice	$11 50	@	13 00
Wheat and Oat	8 00	@	11 00
Tame Oat, fair to choice	8 00	@	11 00
Wild Oat	7 00	@	8 50
Barley	7 00	@	9 00
Alfalfa	8 00	@	10 50
Compressed	10 00	@	13 00
Straw, ₱ bale	40	@	65

Millstuffs.

Market is fairly well stocked with Bran and Middlings, but stocks are largely in few hands and there is consequently little or no cutting competition to realize. Rolled Barley is firmly held. Values for Milled Corn aro ruling firm at the quoted range.

Bran, ₱ ton	$20 50	@	21 50
Middlings	25 00	@	28 00
Shorts, Oregon	21 50	@	22 50
Barley, Rolled	22 50	@	23 50
Cornmeal	31 50	@	32 50
Cracked Corn	32 00	@	33 00
Oilcake Meal	31 50	@	33 00

Seeds.

Most kinds quoted herewith are in light spot supply. Quotable values remain very much as last noted, tho market in the main showing firmness. This season's Mustard crop is small. Some old Yellow Mustard is reported still in stock at producing points.

	Per ctl.	
Alfalfa, Cal., good to choice	$14 00	@16 00
Flax	1 75	@ 2 35
Mustard, Yellow	3 25	@ 3 50
Mustard, Trieste	5 00	@ 5 25
	Per lh.	
Canary	7	@—
Rape	1¾	@ 2½
Hemp	3½	@—
Timothy	5	@ 5½

Honey.

Spot stocks of amber grades are of fairly liberal volume, including some Hawaiian Island honey. The latter is rather dark, of light body and sugary flavor. It is receiving scarcely any attention. Choice water-white is not plentiful, either Comb or Extracted, and for this grade the market is moderately firm at the values prevailing.

Extracted, White Liquid	5½	@ 6
Extracted, Light Amber	5	@ 5½
Extracted, Amber	4	@ 4½
Extracted, Dark Amber	3¼	@ 3¾
White Comb, 1-frames	12½	@13
Amber Comb	9	@11

Beeswax.

Market is lightly stocked and firm, there being a good shipping demand at the figures quoted.

Good to choice, light ₱ lb	28	@30
Dark	26	@27½

Live Stock and Meats.

Beef is in fair supply, with market rather firm for best qualities, but slow and easy for common. Small Veal in prime condition sells to fair advantage, but Large Veal is in poor request. Market is for the time being well stocked with Mutton and Lamb, prices remaining quotably as last noted, but there is an absence of noteworthy firmness. Hog markot is firm for medium and large sizes. medium receiving the preference. Small Hogs are in more than ample receipt for the immediate demand.

Allowing for the shrinkage of about 50%, which is exacted in buying cattle on the hoof, live cattle command as much or more per pound than dressed beef, the shrinkage exacted being the slaughterers' profit.

The following quotations for beef and mutton are based on prices realized by slaughterers from wholesale dealers:

Beef, 1st quality, dressed, net ₱ lb	6½	@—
Beef, 2nd quality	5½	@—
Beef, 3rd quality	4	@ 5
Mutton—ewes, 6½@7c; wethers	7½	@—
Hogs, hard grain, 140 to 200 lbs	4⅞	@—
Hogs, large, hard, over 200 pounds	4¾	@ 4¾
Hogs, small, fat	4½	@—
Veal, large, ₱ lb	5	@ 6
Veal, small, ₱ lb	8	@ 9
Lamb, spring, ₱ lb	9	@ 9½

Hides, Skins and Tallow.

There is a good demand for Hides, choice roadily bringing full current values. Market for Pelts is ruling fairly steady. Tallow is boing shipped freely to Central and South America.

Nothing hut select hides, clean and trimmed will hring full figures. Culls of all kinds, either from gruhs, cuts, hair slips, side hrands or murrain, are not always readily placed at the lower figures.

	Sound.	Culls.
Heavy Steers, over 56 lbs	— @10	— @ 9
Medium Steers, 48 to 56 lbs	— @ 9	— @ 8½
Light Steers, under 48 lbs	— @ 8½	— @ 7½
Heavy Cow Hides, over 50 lbs	8 @ 8½	7 @ 7½
Light Cow Hides, under 50 lbs	8 @ 8¼	7 @ 7½
Stags	— @ 6	— @ 5
Wet Salted Kip	— @ 9	— @ 8
Wet Salted Veal	—@10	— @ 9
Wet Salted Calf	—@11	— @10
Dry Hides	—@16	— @15
Dry Kip and Veal, 11 to 16 lbs	—@13	— @12
Dry Calf, under 4 lbs	—@18	— @16
Pelts, long wool, ₱ skin	1 00@1 50	
Pelts, medium, ₱ skin	70@ 90	
Pelts, short wool, ₱ skin	40@ 65	
Pelts, shearling, ₱ skin	15@ 30	
Horse Hides, salted, large prime, each	2 75@—	
Horse Hides, salted, medium	2 50@—	
Horse Hides, salted, small	2 00@—	
Horse Hides, dry, large	1 75@—	
Horse Hides, dry, medium	1 50@—	
Horse Hides, dry, small	1 00@—	
Tallow, good quality	4 @4½	
Tallow, poorer grades	2½@3½	

Bags and Bagging.

Grain Bags are going begging for custom at reduced figures, the demand for the soason being noarly ended. Some speculative holders are ondeavoring to unload with as little loss as possible. Market for other bags is quiet at nominally unchanged values.

Bean Bags	$	4¼@5
Fruit Sacks, cotton		6¾@6¾
Fruit Sacks, jute, as to quality		5¾@7
Grain Bags, Calcutta, 22x36, spot		5¼@5¾
Grain Bags, San Quentin, ₱ 100	4 75	@—
Wool Sacks, 4-lb		32 @—
Wool Sacks, 3½-lb		30 @—

Poultry.

There was a fair demand for good to choice poultry, mainly for Young Chickens, medium sizo to full grown and in fine flesh, such meeting with a moderately firm market. Common Old Chickens did not receive much attention, and had to go mostly to peddlers, who buy only at low figures. Inquiry for Turkeys was light and was principally for Gobblers. Choice Young Ducks and fat Goslings were not neglected. Market for Pigeons was quiet and devoid of special firmness.

Turkeys, Young, ₱ lb	$ 24	@	25
Turkeys, live gobblers, ₱ lb	15	@	17
Turkeys, live hens ₱ lb	14	@	15
Hens, California, ₱ dozen	4 50	@	5 00
Hens, large	5 50	@	6 00
Roosters, old	4 50	@	5 00
Roosters, young (full-grown)	7 00	@	7 50
Fryers	4 50	@	5 50
Broilers, large	3 00	@	4 00
Broilers, small to medium	2 50	@	3 00
Ducks, old, ₱ dozen	4 00	@	4 50
Ducks, young, ₱ dozen	4 50	@	5 00
Geese, ₱ pair	1 25	@	1 50
Goslings, ₱ pair	1 50	@	1 75
Pigeons, old, ₱ dozen	1 50	@	——
Pigeons, young	1 25	@	1 50

Butter.

Demand has shown some improvement and market presents a generally better tone, stocks of fresh proving less excessive than for some time past. There is considerable Eastern butter here, however, and this will tend to chock any marked advances in prices of domestic product.

Creamery, extras, ₱ lb	22	@—
Creamery, firsts	21	@—
Creamery, seconds	20	@—
Dairy, select	21	@—
Dairy, firsts	20	@—

Dairy, seconds	18	@19
Cold storage	—	@—
Mixed Store	13½	@14

Cheese.

There are no heavy stocks of flats, especially of choice to select mild-flavored new, and for latter sort the market is fairly firm. Young Americas are in light supply and bringing good prices.

California, fancy flat, new	9½	@10
California, good to choice	9	@ 9½
California, fair to good	8½	@ 9
California, "Young Americas"	10	@11
Eastern	10	@13

Eggs.

Strictly select fresh were not in heavy receipt and when going to special custom brought comparatively good figures. For eggs which were not of the very highest standard, however, the market was slow and lacked firmness. Buyers content with others than the very fanciest fresh are running mainly on Eastern eggs, which are arriving rather freely.

California, select, large, white and fresh.	26	@27
California, select, irregular color & size.	22½	@24
California, good to choice store	19	@21
Eastern firsts	20	@22
Eastern seconds	17	@19

Vegetables.

Most kinds of summer vegetables were in good supply and market in the main lacked firmness, especially for other than choice to select. Tomatoes, common String Beans and Green Peppers were in particularly liberal stock. Some vegetables of superior quality went in a small way to special custom at an advance on quotations. Yellow Onions were in only moderate receipt, with demand fair, and current values were tolerably well maintained.

Beans, Lima, ₱ lb	3	@	4
Beans, String, ₱ lb	1½	@	3
Beans, Wax, ₱ lb	1½	@	3
Cabbage, choice garden, ₱ 100 lbs	1 00	@	1 25
Corn, Green, ₱ crate	75	@	1 25
Cucumbers, ₱ large box	25	@	50
Egg Plant, ₱ box	30	@	65
Garlic, new, ₱ lb	3	@	4
Okra, Green, ₱ box	50	@	75
Onions, Yellow Danver, ₱ ctl	1 25	@	1 50
Peas, sweet garden, ₱ lb	2	@	3
Peppers, Green, ₱ box	30	@	65
Summer Squash, ₱ box	25	@	50
Tomatoes, large box	25	@	50

NOTE.—Large boxes are what are known to the trade as "pay boxes," which have to be returned or paid for. They are open top, with hand holes in the ends, and weigh when filled from 50@60 lbs gross. Small boxes are free boxes, about the same as the regular fruit box, weighing when full from 20 to 30 lbs. gross.

Potatoes.

The market showed a slightly better tone than previous week, there being less accumulation of stocks and prices averaged a little higher than last quoted. Some Sweet Potatoes from Sacramento river section sold at 2½@3½c per lb, at wharf, while for the Coachella valley product 6c was asked.

Salinas Burbanks, ₱ cental	1 20	@	1 50
Potatoes, white, ₱ cental	1 00	@	1 25
Early Rose, ₱ cental	1 00	@	1 15
Garnet Chile	1 00	@	1 15
Sweet Potatoes, ₱ lb	4	@	6

Fresh Fruits.

With the exception of Bartlett Pears, there were no very heavy offerings of deciduous fruits, and the market as a whole was rather firm for desirable qualities. Canners were running quite heavily on contract Pears and were consequently buying very little in the open market. Choice Bartletts sold fairly well on shipping orders, but common qualities went at generally low figures. Apples of ordinary grade were in liberal stock. Apricots were in good request and market was firm for good to choice, both in bulk and in free boxes. Peaches of desirable quality were in favor at prices much the same as were current the previous week. Plums were in fair demand, with only moderate receipts of choice to select of desirable varieties. Grapes were mostly too green to be sought after; choice ripe brought tolerably good figures. Figs were scarce. Melons were plentiful and prices quite reasonable. Blackberries arrived rather freely, but most other varieties of berries were in light receipt, good to choice as a rule selling well.

Apples, Gravenstein, ₱ 50-box	1 00	@	1 25
Apples, good to choice, 50-lb. bx	75	@	1 00
Apricots, ₱ crate	50	@	90
Apricots, ₱ ton	30 00	@	50 00
Blackberries, ₱ chest	2 00	@	4 00
Cantaloupes, & crate	1 00	@	1 75
Crabapples, ₱ large box	60	@	75
Figs, small bx, $1@1.25; drawer	—	@	—
Grapes, Black, ₱ crate	65	@	1 00
Grapes, Seedless, ₱ crate	50	@	75
Huckleberries, ₱ lb	8	@	10
Loganberries, ₱ chest	6 00	@	7 00
Nectarines, Red, ₱ box	50	@	1 00
Nectarines, White, ₱ box	25	@	50
Nutmeg Melons, ₱ box	60	@	1 00
Peaches, ₱ pay box	50	@	90
Peaches, ₱ free box	30	@	50
Pears, No. 1 Bartlett, ₱ 40-lb box	85	@	1 00
Pears, Bartlett, No. 2, ₱ box	40	@	50
Pears, Bartlett, No. 1, ₱ ton	25 00	@	30 00
Pears, other varieties, small box	30	@	60
Plums, Large, ₱ box	40	@	75
Plums, in bulk, ₱ ton	20 00	@	25 00
Prunes, Tragedy, ₱ box	40	@	65
Raspberries, ₱ chest	5 00	@	8 00
Strawberries, Longworth, ₱ chest	5 00	@	7 00
Strawberries, large, ₱ chest	2 50	@	5 00
Watermelons, ₱ doz	1 00	@	3 00

Dried Fruits.

There are no heavy stocks of new crop dried fruit of any description on the local market, and supplies of old other than Prunes are nearly exhausted. Apples of early curing are being held mainly within range of 6¼@6¾c. for good to choice bleached in 50 lb. boxes, with strictly fancy in such light stock at present as to be hardly quotable. Values for Apricots are being well maintained at previously quoted range, especially the better grades, which are in good request. Peaches are arriving in moderate quantity, with sales at 7@7½c. for good to choice Crawfords in sacks, although buyers are expecting easier figures on later deliveries. Pears are beginning to put in an appearance by sample; there are few of standard quality offering for Sept. delivery under 5½c., and fancy halves are quotable up to 11c., the market presenting a firm tone for high grade stock. For Nectarines there is no very active inquiry, but choice of the light colored varieties are quotable at 5½@6c., while for red it would be difficult to realize over 5c. Market for new Prunes is quiet and not quotable over the 2c. bag basis for Santa Claras, some dealers talking 1¾@1⅞c. for the four sizes, Oct. delivery. A large shipment of Prunes was made the past week to Germany, two steamers taking 221,000 lbs. The last steamer for Australia carried 57,000 lbs. dried fruit, exclusive of Raisins and including 24,000 lbs. Prunes. The steamer City of Puebla, for British Columbia, took 18,000 lbs. dried fruit, including 9,125 lbs. Prunes.

EVAPORATED OR BLEACHED.

Apples, 50-lb boxes, rings, pressed, good to choice	5½	@	6
Apples, extra choice to fancy, 50-lb boxes.	6½	@	7½
Apricots, Moorpark	9	@	11
Apricots, Royal, good to choice, ₱ lb	7½	@	8
Apricots, Royal, fancy	9	@	10
Figs, 10-lb box, 1-lb cartons	50	@	65
Nectarines, Red, ₱ lb	5	@	—
Nectarines, White and Yellow	5½	@	6
Peaches, unpeeled, good to choice	5¾	@	6½
Peaches, unpeeled, fancy to extra fancy	7	@	8
Pears, standard, ₱ lb	5	@	5½
Pears, choice to fancy	7	@	10
Pears, extra fancy	10	@	11
Plums, Black, pitted	4½	@	5½
Plums, Yellow, pitted	6	@	7
Prunes, Silver, good to fancy	3	@	5
Prunes, in bags, 4 sizes, 1¾@2c; 40-50s, 3½@3¾c; 50-60s, 3@3¼c; 60-70s, 2½@2¾c; 70-80s, 2@2¼c; 80-90s, 1⅝@1⅞c; 90-100s, 1½@1¾c; small, ⅝@1c.			

COMMON SUN-DRIED.

Apples, sliced	3½	@	4½
Apples, quartered	3½	@	4½
Figs, White, in bulk	3	@	3½
Figs, Black	2½	@	3½

Raisins.

The Raisin market is unsettled and weak. The Association has made a big cut in prices and is now winding up its affairs, having been unable to secure by signature the acreage required to continue. Tho cut ranges from 1@1½c. The new prices are subject to change without notice and are for August delivery, 50-lb. cases. Following are the figures now in force and the old rates:

	New.	Old.
2-crown loose Muscatels	2½c	4c
3-crown loose Muscatels	3c	4¼c
Seedless loose Muscatels	2c	3¼c
2-crown Malaga loose	2¼c	2¾c
3-crown Malaga loose	2¾c	4c
Seedless Sultanas, unbleached	2½c	3½c
SEEDED.		
Fancy, 16-oz cartons	4½c	5½c
Choice, 16-oz cartons	4c	5¼c

Citrus Fruits.

Orange market is very quiet, with few offerings and demand exceedingly limited. Lemons are in fair request and in ample supply for current needs; prices are without quotable change. Lime market is ruling steady. The total shipments of Oranges and Lemons from Southern California for the season, November 1, 1903, to June 27, 1904, were 25,450 carloads, which, at the rate of 360 boxes to the car, amounts to 9,162,000 boxes. The shipments for the corresponding period last season were 19,890 cars, or 7,160,400 boxes.

Oranges, Valencias, ₱ box	1 50	@	2 50
Lemons, California, select, ₱ box	2 50	@	—
Lemons, California, good to choice	1 75	@	2 25
Lemons, California, fair to good	1 25	@	1 75
Grape Fruit, ₱ box	1 25	@	2 50
Limes, Mexican, ₱ box	4 00	@	4 50

Nuts.

Market is firm for Almonds, demand being active for this year's crop and offerings comparatively light. The Walnut crop promises to be larger and of better average quality than last year; the market is now bare. Peanuts are in moderate supply.

California Almonds, shelled	17	@	20
California Almonds, paper shell	12	@	13½
California Almonds, soft shell	9½	@	11½
California Almonds, hard shell	6	@	7
Peanuts, fair to prime	4½	@	5½

Wine.

The wine market shows much the same general condition as previously noted. Dry wines of last vintage are quotable at 15@17c per gallon, wholesale, San Francisco delivery. Prices for this season's dry wine grapes have not yet been definitely established, but indications are they will range from $12@17 per ton, as to variety and section. Sweet wines of 1903 are in liberal stock and 30c per gallon asked at wineries. The steamer San Juan, sailing July 30, carried 41,458 gallons and 36 cases wine, including 38,116 cases for New York. Receipts of wine at San Francisco last week were 266,105 gallons and for preceding week were 254,615 gallons. Receipts for month of July aggregated 1,151,245 gallons.

Produce Receipts.

Receipts and exports of leading cereals and other California products for the past week and for the season to date, as compared with the corresponding time the previous year, are as follows:

FOR THE WEEK.		Since July 1, 1904.	Same time last year.
Flour, ¼ sks	95,624	421,932	410,789
Wheat, ctls	18,711	62,203	88,614
Barley, ctls	59,786	184,809	246,068
Oats, ctls	21,017	58,972	67,019
Corn, ctls	2,536	5,934	6,380
Rye, ctls	2,522	4,770	6,040
Beans, sks	2,283	10,078	9,286
Potatoes, sks	20,412	83,427	88,619
Onions, sks	3,075	10,208	15,299
Hay, tons	6,722	19,382	10,891
Wool, bales	2,605	5,185	4,420
Hops, bales	16	76	625

EXPORTS BY SEA.

FOR THE WEEK.		Since July 1, 1904.	Same time last year.
Flour, ¼ sk	17,252	260,104	193,044
Wheat, ctls	11,617	13,134	14,330
Barley, ctls	59,808	83,116	77,249
Oats, ctls	321	1,111	1,965
Corn, ctls	134	861	1,345
Beans, sks	497	1,909	1,717
Hay, bales	8,087	12,846	11,414
Wool, lbs	....	225,977	562,605
Hops, lbs	318	3,330	19,152
Honey, cases	2	71	47
Potatoes, pkgs	1,909	7,271	8,746

New Patents.

DEWEY, STRONG & CO.'S SCIENTIFIC PRESS PATENT AGENCY, 330 Market St., S F., has official reports of the following U. S. patents issued to Pacific coast inventors:

FOR WEEK ENDING JULY 19, 1904.

765,303.—BREECHING STRAP HOLDER—J. W. Adams, Santa Ana, Cal.
765,263.—ELECTRIC SWITCH—W. J. Bell, Los Angeles, Cal.
765,264.—CROSSING SIGNAL—W. J. Bell, Los Angeles, Cal.
765,265.—CROSSING APPLIANCE—W. J. Bell, Los Angeles, Cal.
765,266.—AUDIBLE SIGNAL—W. J. Bell, Los Angeles, Cal.
765,651.—WATER HEATER—P. Deasy, Oakland, Cal.
765,652.—WATER HEATER—P. A. Deasy, Oakland, Cal.
765,170.—BURLESQUE HANGING MACHINE—J. J. Duffie, Los Angeles, Cal.
765,381.—FRUIT PROCESSING—C. F. Fleming, San Jose, Cal.
765,312.—INJECTOR—J. S. George, Ferndale, Wash.
765,475.—SNATCH BLOCK—J. E. Gilchrist, Southbend, Wash.
765,313.—WAGON SPOKES—G. Hansen, Seattle, Wash.
765,361.—WRINKLE ERADICATOR—W. B. Hargrave, Colfax, Wash.
765,282.—DOOR CLOSER—F. Hutter, Clealum, Wash.
765,288.—STEPLADDER—W. C. King, Weimar, Cal.
765,363.—VALVE—J. C. Kitton, S. F.
765,582.—DRY CLOSET—F. S. Lang, Nome, Alaska.
765,624.—VEHICLE TOP—D. W. Leonard, Hurn, Wash.
765,586.—TREE TRANSPLANTER—W. C. Mason, Pasadena, Cal.
765,506.—RULE GAUGE—H. McKechnie, Seattle, Wash.
765,531.—CONDUIT—J. D. McNab, Fillmore, Cal.
765,439.—BOTTLE—R. D. Pike, Stanford University, Cal.
765,513.—SHACKLE—J. A. Rock, S F.
5,298.—SIGNALING—Shoemaker & Giddings, Pasadena, Cal.
765,369.—STRETCHER—Smith & Ferrin, Oakland, Cal.
765,535.—RAILJOINT—W. D. Williams, Kirkland, Wash.
765,646.—WINDOW WEIGHT—J. M. Wishart, Pasadena, Cal.

Mr. Hoops Publishes His Conclusions.

Mr. H. Hoops of Wrights, Santa Clara county, has published a neat booklet giving the conclusions of his viticultural experience and his observation on the occurrence of the Anaheim disease Mr. Hoops published in the PACIFIC RURAL PRESS some months ago that he had satisfied himself as to the cause of the Anaheim disease, and he invited negotiations with those to whom his information might be valuable. We made the announcement because Mr. Hoops is an old subscriber of ours, and one in whose sincerity we have full confidence. For the same reason we make reference to the publication which contains Mr. Hoops' claims fully described, but which we cannot make public, because he prefers to sell the publication to recoup himself for what the matter has cost him. Those interested may correspond with Mr. Hoops at the address given above.

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MONEY IN ALFALFA.—Red Bluff Cause: F. M. Parker, who lives on Red Bank, about 8 miles from Red Bluff, has been a grower of alfalfa on a small scale, but he has found it exceedingly profitable. Several years ago he planted eight acres to alfalfa, selecting for it alluvial patches of ground along the creek. At his place the bank of the creek is high, being probably 7 or 8 feet above the creek bed. The alfalfa was never irrigated, but it made a good stand and the roots have gone down to water. For nine years past Mr. Parker has been getting five crops a year from his alfalfa field, the yield being about a ton and half to the acre each cutting. Last year, after keeping fifteen tons of alfalfa for his own use, he sold $350 worth.

FORESTRY.

Forest and Rainfall.

In the Yearbook of the Department of Agriculture for 1903, Mr. James W. Toumey, of the Bureau of Forestry, discusses the relation of forests to stream flow. The following extracts from the article bear upon the relation of rainfall to forests:

What Becomes of the Rainfall.—That the excessive destruction of forests is followed by the drying up of streams and springs and by a diminution in the minimum flow of rivers is a well established fact. The forest is the most effective agent known in regulating the disposition of the precipitation after it reaches the ground.

Rainfall escapes from the ground upon which it falls in five ways—through evaporation, transpiration, surface run-off, seepage run-off and deep seepage. By evaporation is meant the moisture which passes into the atmosphere in the form of vapor from water and soil surfaces and from objects resting upon such surfaces, including vegetation. Transpiration is that portion of the rainfall which sinks into the soil, and which is later taken up by the vegetation through the roots and given off to the atmosphere through the stems and foliage. To this latter should be added, although not actually a part of it, the comparatively small amount of moisture taken up by the vegetation, but which through chemical change becomes a part of the organic vegetable structure. By surface or superficial run-off is meant that portion of the precipitation which, from the time of falling until its exit from the drainage basin, passes over the surface without gaining access to the soil. On the other hand, by seepage run-off is meant that portion of the rainfall which sinks into the earth, but which later reappears on the surface at lower elevations, and with the surface run-off escapes from the drainage basin in the streams. By deep seepage is meant that portion of the precipitation which sinks into the soil, but to such depths that it does not reappear later on the surface of the drainage basin.

Evaporation and transpiration are frequently classed together as evaporation. In the irrigated parts of the West they are together known as "fly-off." So, also, the rainfall which does not escape through evaporation and transpiration or through deep seepage is often classed as run-off or stream flow.

Do Forests Influence Evaporation?—In order that the moisture which falls to the earth in the form of rain and snow should be most efficient in sustaining vegetation and in feeding streams, as little as possible should escape in the form of evaporation. Under the best conditions a very large part of the annual rainfall is returned to the atmosphere through evaporation. For humid regions, bearing the same types of vegetation, the amount does not vary much from year to year, no matter what the fluctuations in the rainfall are—a fact first made known by Messrs. Lawes, Gilbert and Barrington in the classical Rothamsted investigations. These gentlemen explain this persistency in the rate of evaporation by the fact that heat and abundant rain seldom occur at the same time. Consequently, in a wet season, the lower temperature and more or less saturated atmosphere prevent excessive evaporation; while in a dry season, although the temperature is higher and the air drier, there is less water to evaporate, and the two extreme conditions balance each other so far as the amount of evaporation is considered. This is not true, however, in arid and subarid regions, because during years of minimum rainfall the upper layers of the soil are often so dry for months at a time that there is very little moisture to evaporate, while on the other hand during the years of maximum precipitation the atmosphere is not sufficiently saturated to check rapid evaporation.

There is little or no difference between evaporation from a water surface and from any other surface that is thoroughly wet, when both are exposed to the same atmospheric conditions. The evaporation from a water surface is, however, always the same under the same conditions, but it is not the same from other surfaces, because they vary from completely wet to completely dry.

In the forest the crowns of the trees remain wet but a short time after precipitation. During this period, however, the evaporation is undoubtedly very rapid, on account of the large surface and from the fact that the crowns are exposed to the wind and sun. But in a long series of investigations made at the Forest Experiment Station at Nancy, France, and recently published, it was found that a deciduous forest near that station held back from the ground less than 8% of the total precipitation. Although this is almost immediately returned to the atmosphere in the form of evaporation, it is a comparatively small amount of the annual rainfall. On the other hand, evaporation from the soil in the open and in the forest continues often for long periods after the evaporation ceases. After the crowns become dry, evaporation is much retarded in the forest because the forest floor is protected from the wind and sun. To such an extent is this true that the loss of moisture through evaporation is much less than that lost from an equally saturated soil or from a water surface in the open. Repeated European observations, extending over long periods of time, and shorter observations made in this country, conclusively show that evaporation from water or other wet surfaces on the floor of the forest is but one-third or one-fourth that from similar surfaces in the open. From the investigation of the moisture content of soils in the San Bernardino mountains, the results of which are as yet unpublished, it appears that the first foot in depth of the mineral soil in the forest may contain two or three times as much moisture as the soil of the same general character from similar situations in the open.

During the summer it is impossible to determine by actual measurement the loss of water from the soil either in the forest or in the open, because conditions as to moisture content constantly vary. During the winter, however, the evaporation from a snow surface can be measured with a fair degree of accuracy. Measurements made in the San Bernardino mountains show that evaporation from snow surfaces may be four or five times as great as from water surfaces under similar exposure, and also that the rate of snow evaporation is profoundly influenced by the wind. In our Western mountains, where the snows are exposed to dry winds, the loss through evaporation is a large percentage of the total snowfall. In the San Bernardino mountains, snowfalls a foot in depth are sometimes evaporated in two or three days without even moistening the soil. In so far as forests check the winter winds and provide shade, they lessen winter evaporation. This lessening of the evaporation from snow surfaces, through the action of forests, is seen in the fact that snows linger much later in the spring in well-wooded regions than in open areas.

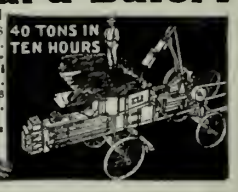
It appears, then, that forests materially retard evaporation, both of soil moisture and of snowfall.


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Immigration and Agricultural Labor Supply.

Ten years ago the late Senator Davis of Minnesota, in discussing the Chinese question, asserted that there was a peril as threatening to this country as that involved in the introduction of the yellow men of the Orient. That peril lay in the organized attempt to hold certain classes of European immigrants in this country bound by their ancestral traditions, language and customs for several generations.

He argued that a deliberate scheme to Europeanize American institutions by planting immense colonies of unassimilable foreigners was dangerous and ought to be resisted. Such a movement is again discernible, though with less evidence of premeditation—no Cahensly now appears as its sponsor.

The Sentry can see a vast difference between accepting an army of Scandinavians, with less than four in a thousand illiterate, or of Germans, with a slightly increased proportion, all of whom make good citizens everywhere, and taking in some of the Slavonic peoples, or south Europeans, of whom nearly one-half are illiterate. The former elements assimilate readily with our present population, while the latter are Americanized only after a long period, and the tendency, where they are gathered in masses, is to transform American settlements into alien communities.

Thousands, perhaps, of these people were farmers, and if properly advised as to the inducements offered in the interior, whether as farm hands in the wheat regions or laborers in the rice, cotton and sugar fields, they could doubtless be induced to seek those regions to their great permanent advantage and that of the country.

It would be much better if these and all other classes of foreigners who come hither could be more widely dispersed throughout the length and breadth of our vast domain. The great center of the new foreign population in the State of New York, where taken together, the Italians, Germans, Irish and Jews make up three-fourths of the entire population of greater New York, while the white Americans of native parentage aggregate only one-sixth of the whole.

It is not difficult to see, in the light of this revelation, how little prospect there is of "Americanizing" the City of New York under such conditions. Certainly there is enough of the foreign element there now to tax to the utmost the assimilative powers of that portion of the Republic. It would be better for the country and much more profitable to the immigrant if he could be induced to pass through the city and onward to the West and South, the farther the better. In the farming and planting sections of the country there are not only better prospects for material welfare, but the churches and schools and local institutions are so organized as to lend themselves readily to the development of a better advancement for the rising generation.

There is in prospect a large influx of Hungarians this year, as the result of the establishment of a new line direct from New York to Hungary. Rates are very low and may go still lower. The price of a ticket from the Hungarian port of departure to New York is said to be as low as $17. These facilities, with the inducements always offered on this side and the war scare in Europe, may be relied upon to greatly stimulate emigration.

As an additional reason why this tide of immigration should be turned from the cities to the rural districts may be incidentally mentioned the fact that the commissioner who has examined into the naturalization frauds reports that immigrants from southern Europe become an easy prey to the promoter of fraudulent naturalization. The report further indicates that the charm of politics is to these repudiated products of demoralized despotism one of the strong inducements to remaining in the large centers of population. In the farming regions, where politics has not been so completely reduced to a science, there would be fewer temptations of character, together with a greater probability of obtaining work at good wages, with more comfortable and elevating surroundings.

This country has hitherto been the Mecca of the most desirable class of foreign immigration. Of nearly 3,000,000 of Germans who left the Fatherland during the thirty-three years which have elapsed since the Empire was established, over 90% came directly to the United States. Emigrants from Denmark, few of whom are illiterate and almost all of whom are farmers, practically all come to this country, and probably 90% of them settle on farms. Anything which will conduce to the prompt and effective distribution of all the Europeans coming here who are adapted to an agricultural life among the attractive and beckoning regions of the South and West, which so warmly welcome them, will be a distinct gain to the material, political and moral welfare of the nation. It seems to the Sentry that the Western railroad managers have a work here, ready at hand, that if attended to would give them thousands of daily producers along their lines that would bring a steady flow of yearly wealth and make thousands of contented, desirable citizens out of the newcomers.

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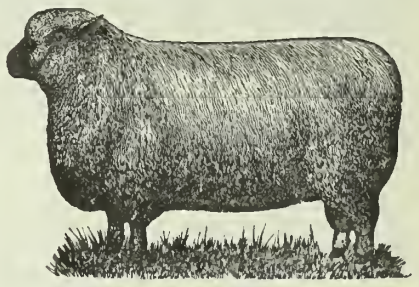
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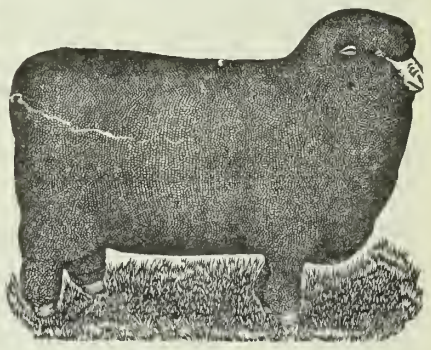
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THE VETERINARIAN.

A Case of Founder.

To the Editor:—About three weeks ago I drove a man's horse about 50 miles on a hot day, never going over 6 miles an hour. The horse showed signs of flatulent colic and was completely worn out in the afternoon. A veterinary surgeon was called and said the horse was badly foundered, and treated him accordingly. The horse is doing well now, not showing any soreness in his feet, but walks with a straddling gait behind and arches his back. What can be done to relieve him? It is hardly possible that it was founder in the first place.—A. M., San Jose.

Answer by Dr. Norman Neilson.

The veterinarian's diagnosis is correct, and as the horse is doing well now the best plan is to follow his instructions. Colicky symptoms very often precede founder, indigestion being a common cause of both conditions. A long journey on a hot day, probably feeding the horse while hot, a drink of cold water afterwards, and indigestion results, with congestion or possibly inflammation of the mucous membrane of the stomach. The sensitive laminæ of the feet—the seat of the lesion of founder—are a direct continuation of the derma of the skin, and this a direct continuation of the mucous membrane. This explains the relationship between the two conditions. The straddling gait behind and the arching of the back are classical symptoms of founder. To prevent a chronic course of the disease, it is best to remove the shoes, poultice or tub the feet, and keep the kidneys good and active with nitrate of potash in the drinking water. The diet should be light and laxative.

Norman Neilson.
510 Golden Gate avenue, S. F.

Dipping for Texas Ticks.

Dr. Charles H. Blemer, State Veterinarian, recently returned to the capital from the southern portion of the State, where he has been conducting a series of experiments in dipping cattle in crude oil for the purpose of eradicating the Texas fever tick. He states to the Sacramento Record that he has met with great success and believes that if all the cattle in the affected districts can be dipped in crude oil the disease can be cleared out of the State within two years.

"I have been using the pinal oil," he said, "but I find that it is too severe, as it takes the hair off all thin-skinned cattle, so I am searching for some lighter oil that will serve the same purpose. This pinal oil is of 27° specific gravity, but I have found an oil belonging to the Western Union Oil Co. that is of 35°, and I think it will be better.

"We have now dipped nearly all of the cattle on the west side of the county, where the infection is the worst, and have established a quarantine line between the two sections. These ticks breed on the cattle and must have blood for their maintenance. These ticks do not hatch until about the first of June, so that if the cattle are dipped about that time it will kill all the ticks, and if they are given an additional dip later in the season all the ticks they have picked up will be killed, and if this is followed up for two seasons I claim it will eradicate them.

"The cattle men are beginning to realize the benefit that accrues to them by dipping, as after the cattle have been put through the vats they begin to take on flesh rapidly, and the milch cows show a decided increase in their milk supply.

"A cattle man named Bigeni, who purchased a lot of dipped cattle and turned them out on his range, found that they did far better than his native cattle, and he has built a dipping tank and intends to dip all of his stock. The vats are made of cement and cost about $50. The cattle start down a gradual incline and then pitch off a sheer descent of 4 feet that puts them in all over. They come out on the other side and stand on a draining board to allow the surplus oil to drain off, and are then returned to the pasture.

"I think each head of stock takes up about a gallon of oil. We fill the vat partially with water and then float a thick layer of oil on it, and we have forked poles with which to push the cattle entirely under in case they do not go under in their first plunge. We are also dipping the hogs in the same solution, and it is wonderful the benefit that accrues to them from the dip.

Other Troubles.—"I investigated the outbreak of glanders at Niles, in Alameda county, and have taken all possible precautions to prevent any further spread of the disease, and have warned the Contra Costa county officials to be vigilant on their side of the line. We have two men, Drs. Donnelson and Donohue, engaged in testing the horses around Niles, and we will soon stamp out the disease.

"I have been notified that there is a serious outbreak of anthrax in Mono county, aud I have advised the officials there how to proceed to eradicate it, as I am unable to go there in person. I have advised them to quarantine all infected pasture and to engage a man to burn all carcasses of cattle that die from the disease."

Eminent Engineers to Attack Our River Problems.

Advices have been received by the California State Board of Public Works, says the Sacramento Union, that the three eminent engineers selected to advise with the engineers of the California Board of Public Works on Sacramento and San Joaquin River conditions have accepted and it is expected they will be in Sacramento not later than Monday, August 8th.

An answer was received yesterday from Major T. C. Dabney of Clarksville, Miss., saying that he is about ready to start.

Major H. M. Chittenden of Sioux City, Iowa, wired that he would start as soon as he obtained leave of absence from the Federal authorities. Engineer Nurse, of this city, said he had no doubt that this leave of absence would be readily granted, as he understood that the entire matter had been arranged.

Henry Brown Richardson, of New Orleans, set no time of his acceptance of the invitation to come to California, and he also is expected to reach here not later than the 8th of next month.

These gentlemen when they reach Sacramento will enter into consultation with Commissioner of Public Works Frank D. Ryan and the members of the board and Engineers Nurse and Randle touching the best methods of improving the Sacramento and San Joaquin rivers, having reference to navigability, control of flood waters and reclamation of valley lands.

The engineers from abroad are to receive $1000 a month during their stay, and it is expected they will require at least two months and possibly three months to accomplish the work mapped out for them.

Boston, March 27, 1889.
Dr. S. A. Tuttle, Dear Sir.—In regard to your Elixir will say it is the best liniment in use and cannot say too much for its good merits, also the White Star and the Condition Powders. As I have used all am speaking understandingly.
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O. RAY, 98 Union St.

The Russians Seize Pacific Coast Flour.

The State Department at Washington has received a formal protest against the action of the Russian navy in seizing American goods, and as a result of its preliminary study of the law and precedents governing the subject, it is prepared to act energetically and promptly. This protest relates to the seizure of an American cargo on board the Hamburg-American steamer Arabia, bound from Portland, Or., for Hongkong, China.

J. H. Mitchell, an attorney of Portland, telegraphed the State Department a statement of the conditions under which the Arabia carried out this cargo. He declared the flour aboard the vessel was in no sense contraband. Indemnity and satisfaction are demanded for the owners of the flour.

The Department officials positively decline to say what course they intend to pursue.

Mr. Mitchell stated that he represented the Portland Milling Co. The company, he said, had shipped on the Arabia for Hongkong 99,000 sacks of flour, worth about $100,000. He declared this flour was not destined for Japan, and it was part of the normal trade of the company, and was not a war order. Mr. Mitchell also requested the State Department to take steps to protect neutral trade from such interference as these attacks by the Vladivostock squadron.

Officials of the Department say that the whole subject of interference with American trade between the belligerents in the present war will be considered, and that each protest that may be forwarded will be part of a uniform and consistent policy to be followed by the Department. So far the Department has little information as to the circumstances of the seizure of the Arabia and her cargo. As the vessel was under a German flag it is presumed that Berlin will be appealed to.

State Publicity Committee.

At the meeting held in Sacramento June 18th last a resolution was passed providing for a State Publicity Committee, consisting of nine, to be appointed by the chairman of the meeting.

The chairman of the meeting has announced the following appointments on this committee:

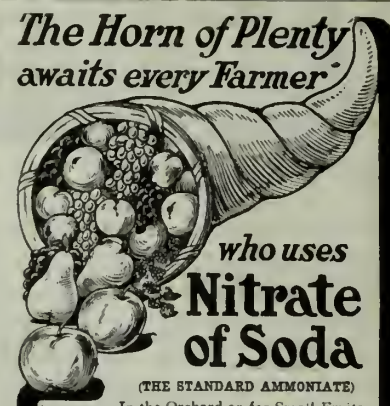
Rufus P. Jennings, San Francisco, representing San Francisco county; Francis Q. Story, Los Angeles, representing counties south of Tehachapi; Morris Brooke, Sacramento, representing Sacramento valley counties; Edwin Stearns, Oakland, representing San Francisco bay counties; A. Frank Neate, Fresno, representing San Joaquin valley counties; George A. Kellogg, Eureka, representing north coast counties; Arthur G. Balaam, Lompoc, representing south coast counties; I. B. McMahill, San Jose, representing central coast counties; Gilbert B. Morrow, Sonora, representing Sierra counties.

A meeting will be held at an early date, when a plan will be devised for general State advertising.

Citrus Fruits and Their Culture.

This is the title of a handsome volume of 600 pages by Prof. H. Harold Hume, recently professor of horticulture of the University of Florida, but now connected with the North Carolina Department of Agriculture at Raleigh. It deals carefully with the botanical relationship of the several citrus fruits and with descriptions of the varieties chiefly grown in the United States, and thus affords a reference volume of much service to growers who desire to take a broad view of American citrus culture. There is also quite a detailed discussion of stocks for citrus trees, chiefly, however, from a Florida point of view, and the same is true of the interesting discussions of cultivation, fertilization, handling of the crops, etc. California growers should have Prof. Hume's book at hand for the excellent descriptions and discussions of Florida practices which it gives, and of which they should desire to be informed, even if our conditions do call for essentially different methods. The book is dedicated to Mr. G. L. Taber of Glen St. Mary, the widely known Florida horticulturist, whose inspiration, the author says, has made the volume possible.

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ENTOMOLOGICAL.

The Codlin Moth Work at Watsonville.

Concerning the codlin moth investigation being conducted in Pajaro valley, W. H. Volck, assistant entomologist in charge of the local work for the University of California, gives the Pajaronian this account:

Many orchardists who were enthusiastic sprayers last year have retired from the list this season. Apparently there are two important reasons for this lack of interest in the fight against the codlin moth.

Cost and Profit.—First, the short crop may be placed as a very important consideration, many growers arguing that the returns will not compensate for the cost of spraying. In this connection, however, the inspection of a number of orchards has shown that in many instances this decision has been reached without sufficient thought or consideration of the consequences.

It is seldom, if ever, that the cost of spraying is more than 20 cents per tree for the whole season, and it is often less. Supposing the crop per tree will not average more than one and perhaps two boxes, and the loss from wormy apples ranges, as it may, anywhere from 25% to 75%. Now if by spraying 75% of sound apples can be assured the saving as a result of spraying will range from 20 cents to $1.50. The counter argument may be raised that spraying is not the only expense, but if it is intended to pick the crop the expediency of spraying becomes apparent, for the limited number of apples will tend to cause a very material increase in the percentage of wormy fruit and may in some cases render a total failure of what now promises to be a remunerative crop.

Aside from the direct gain, the sprayer will have left his orchard in a much better condition with regard to the total number of worms which will winter over to infest next year's crop. Last year's experience was sufficient to demonstrate that in most sections thorough spraying would result in a saving of at least 75% of the apples from the ravages of the codlin moth. This implies that 80% to 95% of the worms were killed, and consequently not left to do damage this year.

When the crop is viewed from the standpoint of present and future returns the shortage may prove a reason for spraying rather than an excuse for inactivity.

Dangers of Spraying.—Aside from the short crop, there is the possible danger of injuring the trees by the arsenical sprays used in the control of the codlin moth. This may be considered as a second important reason why more are not spraying this year.

While it is not desired to minimize the danger along this line, but rather to point out that in some instances trees were injured last season even to the extent of affecting this year's crop, yet we would call attention to the many cases of successful spraying in which little or no injury was done. The serious results in some orchards are to be largely attributed to overzealous efforts, and the placing of too great confidence in the experience of other regions where different climatic conditions prevail.

But if the grower has decided to spray in order to meet the second brood of moths which is now emerging the question of what arsenical to use will be uppermost.

After all has been said, paris green is among the safest of the arsenites when used in moderate doses, and is certainly second to none in the control of the moth. The trees will now stand two to three applications at the rate of one pound of green to 200 or 225 gallons of water, with five or six pounds of lime added.

The Kedzie mixture has gained considerable favor, although it is but slightly less dangerous to the trees than paris green and the control of the codlin moth is not so perfect. It is, however, the cheapest of the arsenical sprays, which is a strong point with the orchardist. The stock solution for the preparation of this mixture can be obtained ready made in the Watsonville market. It is to be mixed with water and lime according to directions on the package.

On the other hand, the arsenates, while safer than arsenites, will be harder to obtain, as the raw material is not for sale on this coast, but will have to be ordered from New York City. Some prepared arsenates of lead are for sale here or in San Francisco, among which Disparene and Swift's arsenate of lead may be mentioned. Some who used arsenate of lead last season reported favorably and others in the negative with regard to the control of the codlin moth that was obtained. We believe, however, that in general its use will prove successful and attended with no apparent injury to the trees. The chief disadvantage will be the high price of the proprietary preparations which at present must be used. Considering the above, arsenate of lead is recommended to the consideration of any who fear injury from the use of paris green or other arsenites.

Selection of Spray.—In conclusion, it should be stated that the efforts of the present investigation are being directed toward the selection of some spray which will meet Pajaro valley conditions. The experiments with the oil paris green mixture have progressed far enough to enable us to give out the formula from the office at No. 27 East Third street to anyone who may desire to apply some in an experimental way. The object of the mixture is to render paris green and other arsenicals less injurious to the trees. The efficiency of the method can only be learned from numerous experiments in which great assistance might be rendered by the growers These experiments are of vital interest to the fruit industry in the valley, for if the codlin moth is not satisfactorily controlled it must mean a constantly increasing loss to the future crops. Not only is the pest on the increase, but the majority of the new acreage is planted in the worst moth-infested districts. As experimenting is the only means of determining on a remedy, it will be hard to do too much along this line, whether the remedies are those suggested by this investigation or originate elsewhere.

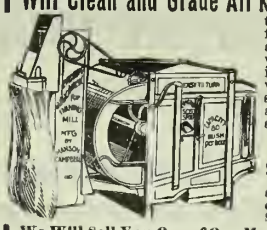
It may be further said in this connection that while the investigation is being maintained by subscription and not by the county, as it was last season, this need not deter any from calling at the office or taking part in the experiments.

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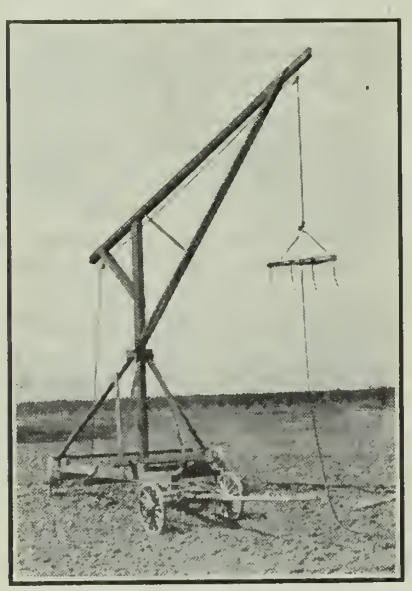
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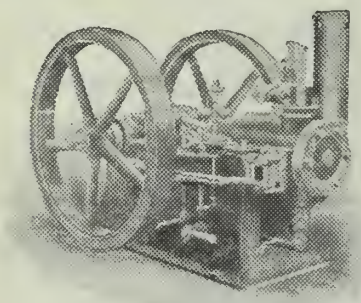
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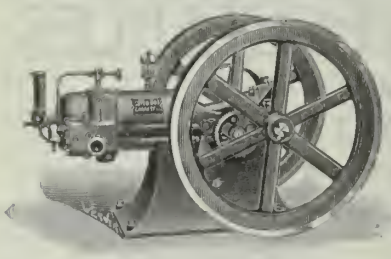
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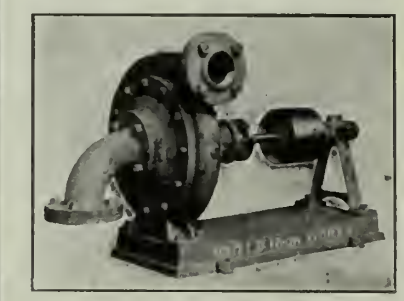
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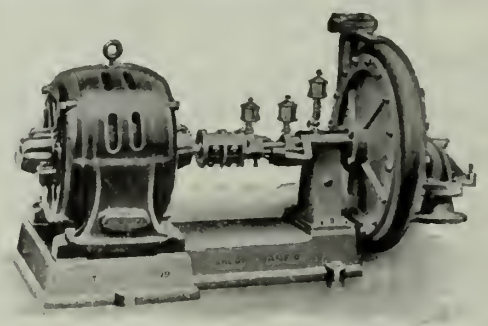
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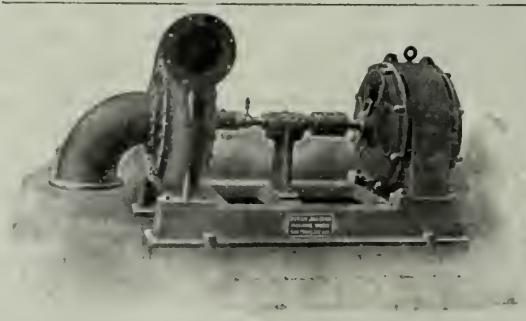
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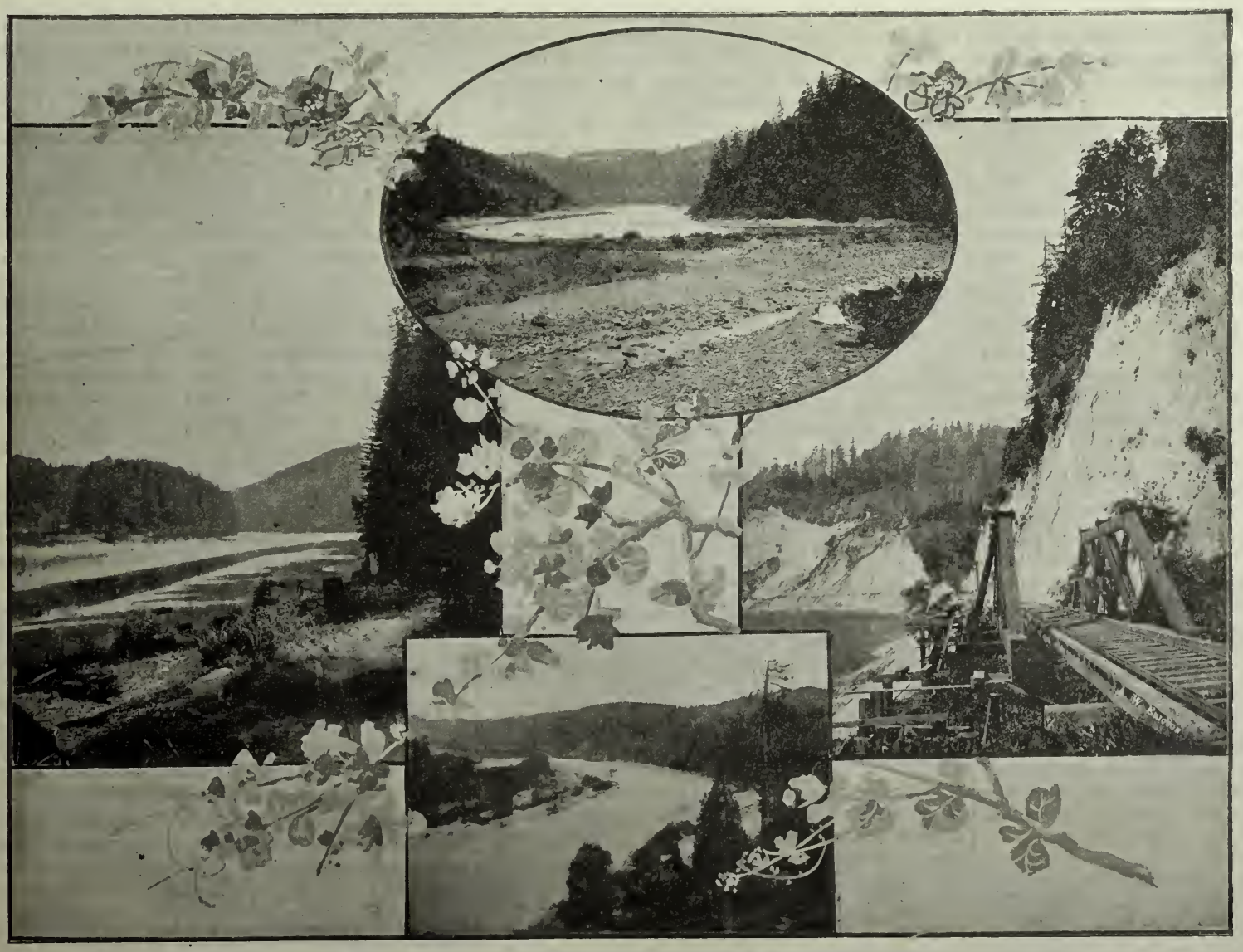
A CALIFORNIA FRUIT BULLETIN.

Vol. LXVIII. No. 7. SAN FRANCISCO, SATURDAY, AUGUST 13, 1904. THIRTY-FOURTH YEAR. Office, 330 Market St.

State Library July 1 '05

Eel River, Humboldt County.

We show this week a pretty group of pictures of the great river of Humboldt county, which has its sources in the Coast Range, beyond the boundaries of the county, entering the county from the southeast by two branches, flowing northwesterly, nearly parallel, a distance of nearly 30 miles, before they come together, forming the main stream, which continues for 40 miles, in the same general direction, to the ocean into which it empties itself at a point about 7 miles south of Humboldt bay. The principal tributary of Eel river is the Van Duzen, which takes its rise in the adjoining county of Trinity, flowing westerly to its confluence with Eel river, about 14 miles from the mouth of the latter stream. Other tributaries are Yager creek, Lawrence creek and Big and Little Laribee creeks—all streams of some size. The river together with a tidal affluent, Salt River, 9 miles in length, is navigable for a few miles, though the presence of a bar at its mouth, with a shifting channel, had militated against its usefulness for some years, until in the early days of 1902 the spring freshets cleared away the obstruction, deepening the channel to about 16 feet at low water. The fact was soon turned to advantage, and regular trips are now being made between Port Kenyon on Salt river and San Francisco, the steamer Argo having been placed on the run and plenty of freight being offered from Ferndale and the contiguous country. Eel river, with its affluents, drains a vast area of land, which constitutes a river basin including some of the most productive and fertile lands in all California.



Scenes Along Eel River, Whose Valley Is One of the Most Famous in Northern California.

Potentilla as a Forage Plant.

In July of last year Mr. Howard Overacker, Jr., of St. Helena, sent us a plant which had appeared in his locality and which appeared to have good points as a dry land forage plant. It was determined by the University botanists to be potentilla elata, as was stated in our issue of July 18, 1903, when we also requested Mr. Overacker to keep watch of the plant and send us a photograph of it. This he has kindly done, and another year's observation strengthens him in the judgment of its value. From the rather indistinct picture on this page its leading features can be discerned. Mr. Overacker states that the only plants he has seen came from seed accidentally mixed in espercette seed which was furnished some years ago by the Government. Mr. Rothwell Hyde, in an endeavor to better the forage on his place near St. Helena, planted a number of different seeds, and this potentilla has survived on a rocky, sun-baked slope, and is gradually extending itself in spite of close cropping by cattle and horses. It grows right under manzanita bushes where the stock cannot get at it, and is thus able to spread by means of seed. It first came to Mr. Overacker's notice two years ago, when the plant from which the picture is taken was secured and placed in his garden. A rough description would be: Roots like alfalfa and leaves like alfilerilla. The plant was cut close to the ground December 1st ult., and on April 1st following it stood 3 feet 5 inches high, while alfalfa alongside was not over 12 inches. This shows how it stands cold and grows in winter, while on the hillside it is nearly always green, especially when fall comes on and the nights are cool.



Potentilla Elata.

This plant, shown in the picture, is about three years old, and sent up fifty-eight stalks, from which Mr. Overacker obtained two quarts of seed. He has no seed to spare, and would like to buy some if any one knows of a commercial supply.

The San Jose Mercury says at the time of President McKinley's visit to San Jose a nine-year-old prune tree was hauled in the procession. That tree is bearing fruit this year. It was replanted first in a spot where it was expected to be left, but had to be moved a second time to make way for improvements. It has not grown at all since it was first dug up, but still bears prunes in good quantity.

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SAN FRANCISCO, AUGUST 13, 1904.

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The Week.

The great spectacular events of the season begin this week with the opening of the new military encampment near Paso Robles and with the holding of primaries for the great conventions. These events are lightening the burdens of the harvest time and affording at least a distraction. Week after next the State Fair will open in Sacramento and continue for two weeks. The exposition will be especially strong this year on the live stock side and should not be overlooked. Later will come the great conclave of Knights Templar and in their reception in San Francisco all parts of the State will take part. An unusual effort will be made to emphasize the resources and achievements of the different parts of the State in the various phases of the welcome which is now in preparation.

Wheat is still upward—over the dollar mark in Chicago, and in this market strong with spot unchanged and futures showing a higher average. Two charters have been made, but they are for merchandise chiefly. One ship has taken a miscellaneous cargo for Liverpool with some wheat aboard. Barley is firm and higher, both for spot and futures. Oats are strong and most kinds higher and the other minor cereals are in much the same shape. Beans are unchanged; Limas are still firm and pinks are resisting quite a bear movement, for there are few here. All ordinary kinds of hay are in bad shape, with heavy receipts and light demand—nothing but the best holds its own. Beef and mutton are weak and hogs fairly steady. Fresh butter is being crowded up to release the stored article, and desirable new cheese is in good shape. Choice eggs are scarce and upward, while ordinary eggs are plenty. It has been a bad week for chickens, but other birds are rather firm. Potatoes are slow and lower; onions quiet and easy. Good fruit is bringing good figures and citrus fruits are unchanged. Dried fruit purchases are still being made in the country, while prunes and raisins are still dragging. Exports of dried fruits continue at a good rate. Almonds are strong and mostly contracted for; no price is yet made on walnuts. Honey is slow and not much fine here; there is too much amber honey and too little shipping demand. Hops are firm. The first bale sold at 25c and another bale picked too green has been offered at 20c. Wool is as strong as ever.

No wonder the Chicago wheat market is mounting high. There is the general report that the crops in the Northwest are being largely destroyed by black rust—though at this distance we do not know what "black rust" is. Rather more definite is the statement that reports received from 300 grain men and millers in Kansas, Nebraska and Oklahoma indicate that this area has produced 58,000,000 bushels less wheat than in 1903. Fully half of the deficit is the direct result of the excessive rains which fell late in June and early in July on fields that were ready for harvest or on wheat that was in the shocks awaiting the thrashers. It is evidently all right that wheat should be worth money and it is too bad that California has not more of it this year.

A very good selection has been made in the appointment of Mr. Ed. M. Ehrhorn of San Jose to occupy the vacancy created by the departure of Mr. Alexander Craw for Hawaii. Mr. Craw was given a farewell banquet by about a hundred of those interested in the fruit industry, and the post-prandial speeches constituted a very cordial and merited tribute to his personal worth and public services. Mr. Ehrhorn is qualified for the place which he now occupies, because of his years of preparation in the form of careful and protracted entomological studies and investigations, as well as by his experience and observations in practical fruit growing. His long career as the sole horticultural commissioner of Santa Clara county has secured for him much credit and is assurance that he understands the peculiar duties of his new place. The fruit interest has a very kindly and appreciative regard for Mr. Ehrhorn. He thinks and acts first and talks afterwards. The State is very fortunate in having Mr. Craw's place so well filled by those having the appointing power.

We wish also to speak of another excellent appointment to public service and that is the call of Mr. W. V. Stafford to be State Labor Commissioner. Mr. Stafford is nominally of Oakland, but the place he looks upon as home, we believe, is his little farm near Santa Cruz, which he has brought to a high degree of culture through his born taste for agricultural things and his constant perusal of the Pacific Rural Press. These commendable avocations have, however, not made Mr. Stafford any less faithful in discharge of his duties as president of the National Order of Railway Conductors, nor less careful in running his trains on the Southern Pacific between Oakland and Fresno. We are particularly pleased, however, with Mr. Stafford's appointment because he is a man of broad views and, so far as the farming interests may be affected by the discharge of his official duties, we shall not find any of that shallowness and prejudice which the word "labor" has unfortunately come to suggest to many people. Mr. Stafford understands the agricultural situation and requirements, and that will be of great advantage.

We seem to be in a very contented mood this week and here is another reason for it. The obligation assumed by the Chico district in offering the U.S. Department of Agriculture a site for the new Plant Introduction Garden has been met and the development of the institution may now proceed to the great advantage of the State. Generous citizens came forward with gifts and the county government made an appropriation and the result was attained. It is easy to write, but it required work to bring it all about, and the credit not only for leadership in the final effort to complete the endowment, but for strenuous personal efforts to the same end, is due to Mr. W. A. Beard, secretary of the Sacramento Valley Development Association, who was foremost in raising more than half of the money. He took it up because he conceived that to lose the garden would be a sad commentary upon the enterprise of the Sacramento valley, while to gain it would be of immense advantage in development. He was right in both propositions and his services should not be forgotten.

Readers of the Pacific Rural Press must have become convinced of our esteem of the services which the United States Consular representatives render in securing information abroad for the benefit of producers at home. We have been enabled through this branch of the Government to secure facts of great interest and importance and the great growth of our export trade has been fostered thereby. The Government now proposes to make another move and still further improve the service; it is to align the diplomatic with the consular service in the effort to extend our trade interests in other countries. American diplomatic officers have, of course, been largely engaged in such work, as shown by their frequent efforts to assist the spread of trade intelligence among our people; they would seem to need only a definite plan of action and proper instruments to become powerful auxiliaries in the great and constantly growing work of equipping our manufacturers and exporters for effective competition in the world's commerce. The Consular representative is largely dependent upon the diplomatic representative to secure the privileges he needs to gather the information he desires, and the present plan is to combine both branches of the foreign service to this end. This would seem to be very desirable. If the United States is to gain its proper place among the competing nations in the world's markets, nothing should be left to chance, but the machinery for collecting information as to business conditions in other countries should be made as efficient and as safely automatic as the means will allow. It is believed that if the diplomatic service could be brought into closer and more active co-operation with it, the United States would possess an instrument of trade expansion which would be difficult to rival.

QUERIES AND REPLIES.

Candid Comments for a Young Mechanic.

To the Editor:—I am a young man 23 years old; I am a tool maker, earning $3 50 per day; also, I am attending Cooper Institute evenings. I enter my fourth year this fall. I expect to have saved by the time I finish school $1200 or $1500 with which to make a start. I have heard there are good prospects for a young man in fruit growing. Will you let me know just what prospects there are in this line?—Young Mechanic, New York City.

It is quite a question whether a young man having accumulated some capital, as you have, and having a trade which welcomes the finest work and development of the highest mechanical thought and skill, should turn away from such a promising pursuit, unless from some reason of health or otherwise it is necessary for you to seek an out-door life. There are great opportunities in fruit growing in California for those who master the details of the work and really enjoy the pursuit sufficiently to bring their best efforts to it. There are many things involved in that undertaking. If you have never tried country life and have been brought up amid city surroundings, it is quite a question whether the quiet and retirement of the country would satisfy you; and then, in learning fruit growing, unless you know something about it already, a certain amount of apprenticeship is necessary, for the effort is not a simple one, but involves knowledge of a great many things which can only be learned by experience. We mention these facts because we would not desire to have you jump at the conclusion that the change of occupation would be desirable for you. At the same time it must be admitted there are a great many men who turn from business and manufacturing pursuits to agricultural undertakings in California and are greatly pleased with the results. These propositions you will think over seriously for yourself. No one is competent to advise you what your individual action should be.

We do not think you should invest the little capital you already have in fruit growing in California unless you have some demonstration that the life and effort will be satisfactory. We would advise you to come to California—as transportation is at a low rate—look into the industry as pursued here and engage to work for some one for a certain period; this would give you a chance to look about and still make you self-supporting in the meantime. It would not, however, be desirable to come to California with the idea of finding free opportunity for work much later in the year than this. It is better to commence at the beginning of the fruit season in May. However, if you could get a leave of absence for a few weeks, just to take a run through the country and judge by observation, the present would be as good a time as any.

Peanut Growing.

To the Editor:—Would like to have your opinion whether peanuts would do well in this locality? I have a place about 2 miles above Los Gatos toward the Santa Cruz mountains. The soil is sandy loam,

partly gently sloping, partly hilly. We have late frosts. Kindly recommend me some reliable work on peanut culture.—New Rancher, Los Gatos.

Your upland loam will probably not hold moisture enough to give you a good large peanut. You can not plant until danger of frost is over, and then the season of adequate moisture for a shallow rooting plant will be short. You can probably grow peanuts, but to get good fat nuts to sell well, and plenty of them, you need the finest sort of valley loam, rich and moist. California methods of peanut growing are described in our "California Fruits, and How to Grow Them."

Responsibility for Dodder Seed.

To the Editor:—I find alfalfa sown by me this spring is full of a vine known to me as love vine. It is a yellow vine and is very troublesome, matting up the alfalfa so it makes it difficult to mow. Do you think that burning one crop on the ground would get rid of it or will I have to plow it up? Is there not a law of redress against dealers who put that kind of seed off on one? It is certainly a great loss both in time and money to be treated so.—J. C. P., Fowler.

The pest of your alfalfa is dodder, which was discussed at length in these columns last week. The nearest we have to a special law on the subject of adulteration of alfalfa seed is one passed by the last Congress, and to go into effect September 1 prox. It provides that alfalfa seed shall not contain 5% or more of seed of yellow trefoil or of sweet clover, unless the percentage thereof is indicated on the package. This, however, does not apply to State trade, but only to interstate and export trade. It does not help in the case you state because dodder seed is not mentioned. So far as we know the only laws which might reach the case would be those relating to responsibility for warranty of purity, and these are side tracted because dealers do not guarantee purity but you buy the seed "as is," and the understanding is that the buyer must beware. There is certainly no law for redress against dealers along the lines you indicate unless they give you guaranty.

The Fruit Labeling Law.

To the Editor:—Will you be kind enough to let me know through your paper what the law is in regard to marking boxes containing fruit, also if it applies to open boxes shipped to a cannery?—Subscriber.

The law to which our correspondent refers was passed by the last Legislature and approved on March 20, 1903. Sec. 1 of this law reads as follows:

All fruit, green or dried, contained in boxes, barrels or packages, which shall hereafter be shipped, or offered for shipment, in this State by any person, firm or corporation, shall have stamped, branded, stenciled or labeled in a conspicuous place on the outside of every such box, barrel or package, in clearly legible letters, at least ¼ inch in height, a statement truly and correctly designating the county and immediate locality in which such fruit was grown.

Sec. 2 provides for a penalty of not less than $200 nor more than $500 fine for violating the law, and later sections provide for inspection, etc. As for the enforcement of the law, it seems to be largely neglected, but if it were enforced we have no idea at all that it would hold upon bulk shipments of fruit, which those in open boxes really are, and therefore not, in a trade sense, packed fruit. So far as notice to the buyer and consmuer is concerned—and that is the aim of the law — the label might as well be nailed to the tree as put upon the lug boxes on their way to the cannery.

The Chocho or Choyota.

To the Editor:—With this I enclose a slip descriptive of a plant called the "chayote." Can you give me any information in regard to it? The account, as printed, sounds like too much from little. Please give any information in regard to it, as to where it can be had, its adaptability to this climate, etc.—Reader, Corning.

The description of the Chayota which you send is very largely a fairy story. This plant belongs to the squash family and bears a fruit which it seems to us is not so good as a muskmelon and possibly a little better than a ripe cucumber. We can conceive how in places where fine deciduous fruits do not grow, as in some tropical situations, this fruit might be very refreshing, but while we have the fine cantaloupes, luscious peaches and other summer fruits grown in this State, there is little opportunity for the Chayota. It is, of course, a very tender plant and cannot endure frosts and is best adapted to places where the fruit can be had at odd seasons because the growth of the vine is not interfered with by low temperatures. If you wish to try an experiment you can get the plant or seed from the nursery and seedsmen.

Transplanting Raspberries.

To the Editor:—Do you think if raspberry canes were transplanted after fruiting this season, where the shoots are strong and vigorous, with the old cane, into moist land and kept so by irrigation, that they would bear nearly as much next season as those that had not been removed? If not considered too doubtful, when would be the best time?—Inquirer, Soquel.

We have never been able to move raspberries while the growth on the new canes was active without a setback. We have transplanted just at the beginning of the rainy season, when the growth was practically at a standstill, and had a good amount of fruit, while later transplanting has given less. We believe that the earlier transplanting gives the plants a better chance to re-establish themselves and make a good amount of new root growth early in the rainy season, and thereby sustain the draft of the fruiting of the new cane. If your plants have now become dry and dormant, you can wet down the ground and transplant soon and get berries for Christmas, probably, in your part of the State, but we doubt if any treatment will enable the plants to do as well as they would without disturbance. The Cuthbert raspberry has practically displaced all the older varieties and it is the one with which we have played our pranks.

Hay Measurement.

To the Editor:—I notice your statement on estimating the weight of hay in stack. Will you kindly inform me if a cube of 8 feet in the stack would be a fair estimate for a ton where the hay had been settling for a couple of months. This, I am informed, is the prevailing method in some places, and having hay for sale where scales are not at hand should be much pleased with your answer.—Subscriber, Oakland.

It is very close to the result arrived at by the rule to which our correspondent alludes. An 8-foot cube contains 19 cubic yards. The amount usually counted for clover hay is 20 to 25 cubic yards to weigh one ton. The settling mentioned and the weight of alfalfa make the requirement run to the lower figure, and perhaps a little beyond it, so the 8-foot cube must be very close indeed.

Army Worms in the Sierra.

To the Editor:—Army worms have appeared high up in the Sierra in Butte county. What can be done to protect places against them?—Reader, Soda Creek.

After the worms are on your plants there is nothing to do but to poison them, and this can be done with Paris green—one pound of Paris green to twenty pounds of flour shaken upon the plants from a cheese-cloth sack. The Paris green may be used as a spray—one pound of Paris green and four pounds of lime to 250 gallons of water. The lime is put in to take up the free arsenic which may be present, and in that way prevent it from injuring the foliage. Of course, if there are many worms and comparatively little foliage great injury will be done in spite of the poison. Of course, each worm must eat a certain amount in order to get the poison. Wherever it is feasible the army worm should be prevented from getting into the area occupied by the plants, as they only move by crawling. This can be done in a number of ways: By maintaining fires of straw or other loose litter across their pathway, or in a ditch around the place to be protected, or many times simply by plowing a deep furrow with the land side toward the area to be protected. The worms will collect in this furrow, being difficult for them to scale the upright inner bank. They can be buried and a new trap set by turning the furrow over those which have accumulated in the first. These are old methods which we have published before and which have been of use to people.

Protecting Fruit From Yellow Jackets.

To the Editor:—Last year there was a certain kind of pear in my orchard that the yellow jackets ate entirely up. This season they are at it again before the pear ripens. Will you publish in your next number the best preventive you know for this trouble?—Subscriber, Monterey.

Take five pounds of common white arsenic and dissolve it in boiling water in an old oil can or some other vessel which can not be used for culinary purpose afterward. Use enough boiling water to dissolve the poison. Cut beef's liver into chunks as large as your fist. Take pieces of baling wire and make hooks on the ends, fixing on one hook a chunk of liver firmly, and then dip in the hot poison for a minute or two. Hang the poisoned liver near the fruit and the jackets will go after it greedily, carrying it away to poison their offspring. Bees will not touch it.

WEATHER AND CROPS.

Report of the U. S. Weather Service for Week Ending August 8, 1904.

Alexander McAdie, Forecast Official and Section Director.

Sacramento Valley.

The weather was somewhat cooler than during the preceding week and conditions were very favorable for all crops. Grain harvesting is nearly completed. The wheat crop is very light and barley only a fair yield. Hay has yielded a large crop and the quality is better than usual. Hop picking has commenced, and reports indicate that the yield will be heavy and the quality good. Deciduous fruits are mostly below average in yield and quality, but prunes and pears in some sections are yielding very good crops. Peaches are light and of poor quality. Grapes are ripening rapidly and picking has commenced in some places; the crop will be above average in yield and quality. Tokays have been slightly injured by burning. Almonds are maturing early. Orange trees are in excellent condition.

Coast and Bay Sections.

Clear, warm weather prevailed in the interior most of the week, with cool, cloudy and foggy weather in the coast districts. Grain harvesting continues and thrashing is progressing. Wheat and barley are yielding fair crops in most sections and the quality of the grain is good. The hay crop is large and of excellent quality; baling is nearing completed. Fire destroyed 5000 tons of hay in warehouse at Hollister. Corn and potatoes are in good condition. Hop picking will commence at Pleasanton in about three weeks. Sugar beets are making rapid growth and will be ready for harvest in Alameda county September 1st. Grapes continue in excellent condition and a heavy crop is probable. Prunes are ripening slowing. Deciduous fruits will fall below average in nearly all sections. Cloverdale oranges will probably yield a good crop.

San Joaquin Valley.

Clear, warm weather prevailed during the past week, and was favorable to all crops. Grain harvest is about completed in all sections, and the crop was light. A good third crop of alfalfa has been harvested in most sections. The deciduous fruit crop is ripening rapidly, and canneries and dryers are in full operation; large shipments continue to Eastern markets. Watermelons are plentiful, and are being shipped in large quantities. Prunes are ripening and there will be a good crop. Almond harvest has begun; the crop is light. Table grapes are ripening rapidly. Raisin grapes are filling out well, and the crop will be large. Sorghum and corn are making good progress. Oranges are making good growth. Heavy rains are reported in the high Sierra. Pasturage is getting scarce, but stock are healthy and in good condition.

Southern California.

Warm, clear weather prevailed during the week, with fogs at night along the coast, The supply of irrigating water is holding out very well. Beans are maturing rapidly and will yield a fair crop. Sugar beets, corn and vegetables are making good growth. Grain and hay have yielded very light crops. Citrus fruits are in fair condition, but it is reported that oranges at Riverside will be light. Grapes are thrifty and give promise of a large crop. Walnuts are in good condition. Deciduous fruits are fairly plentiful, but the yield is much below average.

Los Angeles Summary.—Melons are yielding well; quality good. Hay baling nearing completion on short crop, but better than anticipated. Celery planting at its height; shortage of water is a serious menace to this crop.

Eureka Summary.—Cool, cloudy and foggy along the coast all the week. Sunshine much needed. Clear and hot in the interior. Haying practically finished. Thrashing oats in progress. Few Humboldt apples in market.

Rainfall and Temperature.

The following data for the week ending 5 A. M. Wednesday, August 10, 1904, are from official sources and are furnished by the United States Weather Bureau for the Pacific Rural Press:

California Stations.	Total Rainfall for the Week	Total Seasonal Rainfall to Date	Total Seasonal Rainfall Last Year to Same Date	Average Seasonal Rainfall to Date	Maximum Temperature for the week	Minimum Temperature for the week
Eureka	T	1.19	.15	.16	58	50
Red Bluff	.00	0.10	.00	.04	108	64
Sacramento	.00	T	.00	T	96	52
San Francisco	T	.02	.00	.02	58	50
Fresno	.00	.00	.00	T	108	62
Independence	.00	T	.00	.08	96	66
San Luis Obispo	.00	T	.00	.02	82	52
Los Angeles	.00	.00	.00	.03	86	62
San Diego	.00	.00	.00	.06	78	64
Yuma	.14	.23	.04	.26	104	78

AGRICULTURAL ENGINEER.

Alkali Land Reclamation on the Mojave.

To the Editor:—You may be interested in the alkali part of some writing I recently did for the Los Angeles Times. My experience here is wholly new to our oldest alkali experts, and shows that nothing can be told from the appearance or porosity of the soil. This alkali continues to the very base of the hills, to the very upper edge of the first fan. The worst I have is on ground that by actual trial takes 4 feet of water a day under 6-inch pressure, and keeps it up for days in suecession. The only way I can make it show on most of it is with an island left in such a pond. But on most of it even that wont do, and two years of heavy irrigation have failed to raise any that can be seen. On other land of the same texture it has just come to the surface after two years of wetting, and come in large quantities, indicating great capillarity. In other places on same soil I have leached it with 16 feet of water, so that none has yet shown, though it was three months ago. It plays every kind of trick imaginable, and is ruin to most all vegetation, no matter how watered, while alfalfa stands it best, but squeals lustily for water and burns in a week without it. I expect that will not be so much the case this year when it is over a year old, but don't yet know. The soil holds moisture equal to anything I ever saw, yet it is extremely open, so much so that I have no fears of disposing of all the excess of alkali.—T. S. Van Dyke, Daggett.

The Soil.—From the interesting accounts sent by Mr. Van Dyke we shall freely take: First, then, all that is written about the fertility of desert soils is perfect truth. I doubt if any one has ever seen in the rainless belts land that could be plowed at all that is so lacking in fertility as the sand, clay and hard-scrabble of many sections of the Atlantic coast is. There may be very good reasons why it is worthless, even with water; but lack of the chemicals essential to growth is not likely to be one of them. There is nothing strange about this. The wonder is that we should ever have discovered any marvel in it. All plant food comes first from decomposition of rock. This takes place in all soils, whether wet or dry. Nearly all the land on a desert where one would think of settling lies in great sheets of drift. Little of this is sedimentary, but is the drift of wind and occasionally heavy rains working through long ages. Therefore most of it is deep, giving the roots a great range in feeding. The absence of rain sufficient to wash out the potash and other elements of growth makes it richer than the same soil would be in a land of heavy rains. The latter might be richer in humus caused by decaying vegetation and for some purposes might be superior to the desert soil. But the desert is richer in the chemical elements and therefore not only richer for some things but more enduring. But it is rarely short of sufficient humus. For there is little of it lacking some vegetation that makes enormous roots, which have been decaying in the ground for ages. The ground is so dry that it does not darken under this decay, so that the richest soil may have the gray or red of the original rock of which it was formed, and thus seem sterile to an eye from a rainy land.

How People are Affected.—It would be strange if farming, even on the richest soil, were an immortal picnic, and the desert has its difficulties, of course. Yet many things deemed objectionable by those who have never tried them are really not so, to the great majority of persons. Such is the heat, caused by the dry air, allowing more brilliant sunshine with a dry ground to absorb and turn it into diffused heat. To one coming suddenly from a cooler air, this is nearly intolerable for a few days. Some constitutions are affected by its long continuance, especially in those sections where the nights are hot. It is also severe on those whose occupation is some debilitating indoor work. But among those working out of doors, nine out of ten get used to it in a few days, and care nothing about it. There is nothing dangerous about it, while to some, like the writer, it is actually healthy. The way to stand it is just the same as for standing cold—keep out in it and exercise enough to keep up a raging appetite, so as to eat enough to keep your nerves strong. When it reaches 105° you will hardly know or care when it goes five or ten more, and even another five or ten will not bother you very much. This is largely offset by the ease of sleeping out of doors, by the absence of fog, almost total absence of rain, and the great number of lovely days in fall and winter.

The Winds —One of the first drawbacks one is likely to notice is the wind, which in many parts is double or triple the force of the same wind on the coast. I believe my ranch is the clearing house of all the winds that do business in California, Arizona, Nevada and Lower California. If the balance is not adjusted here, I don't know where it is. The north or east wind, so unpleasant in some of the coast sections in the fall and winter, is nothing but a light, pleasant breeze here. But every time there is a storm on the coast, whether dry or wet, the west or south wind is tripled or quadrupled in intensity here. An attempt at a storm on the coast, or even the probability of one, is quite sure to work the same way; while in spring the mere advisability of rain on the coast is sufficient to let the winds loose for several days. This is probably not so on most of the Colorado desert, but the same principle holds there, and I have found the wind from over the mountains all my health required, even 50 miles below the mouth of the Colorado river.

These winds are not high enough to be dangerous, and would not be very uncomfortable, if they carried no sand and were not so persistent. I don't think I have seen any of over 40 miles an hour, but there are plenty of 30 miles, lasting night and day for days together. The sand they carry cuts and blights vegetation if tender, while their extreme dryness makes them injurious to many plants. On May 18, 1902, the wind that so nearly swamped the Catalina boat, desiccated melons having the third set of leaves and healthy in all respects. They were under mosquito netting, which was covered all around the edges with earth. This held its place. They were not sand cut like those outside, nor even wilted, as if needing water. They simply dried up, standing up stiff in all the pride of life. I am aware that this is a tough story. I never heard of it before, and there has been nothing like it since, although I have lost plenty by sand cutting. But I lost too many of my early melons that day to be mistaken about it. This sand cutting can be stopped by windbreaks that can be soon grown, and the other blighting is not likely to happen often.

Coyotes and jack-rabbits travel much farther on the desert than elsewhere and are very ravenous. The chanees are in many seetions that the isolated settler will need a rabbit fence, and will lose some chickens while imagining that there is no danger. As an offset to this there are no fleas, no mosquitoes, though they may be bred, no bedbugs, while flies do not thrive in the extreme heat, and gnats, which are plenty in winter, cannot stand summer at all. The remarkable freedom of southern California from insects and other pests, as well as malaria, is still more remarkable here; and as for climate, one does not really know what it is until after spending a year on one of these great, dry plains, whose breath is the making of southern California.

The extreme dryness of the air on the desert is no such objeetion as many would suppose. It does not increase the demand of vegetation for water to any such extent as one would imagine. It interferes with the pollination of corn, so that corn is generally a failure, and the same with olives and some other things, but the absence of mildew, seale and fog offset all of this. It makes it dangerous for a traveler not aceustomed to it to get out of water on a hot day, but otherwise is healthful.

The Alkali.—The great objection is alkali, from which scarcely any part is wholly free. In some parts of Arizona and New Mexico there are occasionally long and heavy rains, sufficient to wash out the alkali, but in others, especially on the California deserts, there are many tracts where all the heavy precipitations have been only in cloudbursts, which roll so quickly away that they have little or no effect on alkali a few inches below the surface. This is mainly potash, soda and common salt — the last the worst and soda next in its effect on plants. One of its peculiarities is that it is spotted, so that one may get a favorable analysis from a tract that, as a whole, is unfit for use. It also aets in different ways with different crops, and even with the same crop at different times of the year. Sometimes it shows at once, sometimes only after considerable irrigation or raising of the water level beneath, and sometimes not at all, though quite as injurious. So that he who thinks himself a judge of alkali needs all his modesty in giving an opinion of desert soil. But it by no means follows that alkali land is worthless. On the contrary, it is likely to be a mine of wealth if you can manage the alkali part of it. For it is hard to find any that is poor, and most of it is very rich. It is the excess of fertility that as often does the mischief as when it is due to potash. But it is essential that the settler should find it out at onee, so as to know exactly what he has to meet. If he has plenty of slope, or underdrainage, he can generally laugh at alkali, if he has plenty of water in big heads, as he has under almost all big ditches. But trouble is likely to be in store for the settler on tight, flat land, though it may be far ahead. And open soil with good slope may ruin the man who depends on a windmill or gasoline engine, or has only a dribbling stream from some spring.

My own experience may give the intending settler some idea of what he may have to meet. A full knowledge of these difficulties is often as important as the water itself, and about as rare, because often as hard to get. The builders of irrigation works are very wrong in not investigating all these matters, and the Government itself is no exception, in the new works it is about to build.

What is known as the Minneola ditch, on the lower Mohave river at Daggett, was based on a most reliable water supply. It has a local market of marvelous prices and a vast area of public land that can be reached in 4 miles. It is nearly ten years since the water reached the land. Dozens of tracts were taken up; nine settlers tried in various ways to make a living out of it; all of them failed to raise even horse feed. Everything was abandoned, and for nearly five years the ditch lay idle—probably the only case in the West of a ditch with water flowing all the time utterly abandoned for so long. Failure was attributed to the strong wind, to the hot winds, to the dry air, to poverty of the soil—to everything but alkali. Gardens in Daggett on the same soil raised almost everything, but they were manured and sheltered by fences from the wind. They showed no alkali. No one in Daggett mentioned alkali, and the drip from the railroad tank showed none. A dozen of the best experts in southern California had looked over the land, and not one of them ever found any fault with it, except a few who questioned its extreme richness, as I did, because it was so coarse. It is the second slope from the porphyry hills, a fall of 50 feet to the mile, open below for at least 80 feet, almost exactly like the upper slopes of Altadena or Highland in texture, and would rank anywhere as first-class orange land.

I was finally induced, by parties who had invested in it, to come out and see what was the matter. I eame, intending to stay two weeks. That was just two years ago, and instead of staying only two weeks, I have been away only two weeks, with prospects fine for staying at last two years more.

How the Plants Acted.—With plenty of land all ready for the plow, it took three of us sixteen months to raise enough to feed two horses continuously. Everything was "exceptional," of course. "The windiest season ever known," every one said, and it probably was, for the wind blew night and day five days in the week for five months. Every kind of vegetable and grain was a practical failure, though radishes, onions and the Chile watermelon did well, in spots. No amount of water or method of applying it had any effect, nor did any depth of plowing or amount, or kind of civilization. Almost everything came up—and stood still—while stuff like sorghum flattened out like the ears of a mad eat. Sugar beets and other things supposed to stand alkali failed as badly as the rest. Thirty pounds of alfalfa to the aere sown broadcast on ground thoroughly soaked, quickly plowed, harrowed, etc., didn't average a plant to the square yard, though this was mainly due to the air spaces which the high, dry wind dried out before the seed could start. Everyone in Daggett said it was the wind that kept everything from growing, except a few who said the soil was no good without manure.

I knew I could raise better grain in ground glass with water carrying the fertilizers the dirty, neglected ditch carried. So I leached about ten pounds of earth in a washtub, boiled it down and got no alkali worth analyzing. Although I took it from different places and different depths, I was like the owner of a mine finding good samples enough to fool him. Meanwhile, the rabbits that had not appeared at first came from miles away and swept the board so fast that nothing had time to show the distinctive colors of alkali poisoning, and the year passed away leaving me little wiser than before. On some tight, fine soil in a swale, alkali showed in a few spots from the first. But these were promptly counted out, and from some of them it was apparently washed with heavy irrigation. No amount of standing water or length of time it stood seemed to have any effect. In a very few spots along the ditches there were some signs, but no more than on many of the best lands of Los Angeles or Orange counties. Any expert would have said there was not enough to injure anything.

In the fall I planted about twenty aeres of alfalfa, but the rabbits and birds gave the alkali no chance to hurt it, and the weather was so cool it would have stood it anyhow. I finally fenced the rabbits out of forty-five acres, and a spring as remarkably free from wind as the first had been full of it soon told the tale. The red, yellow and brown soon began to show on barley and other stuff, most of which died before high enough to cut. Alfalfa planted that spring began to die after looking fine for weeks, and that planted in the preceding fall began to wilt, or stand still and turn yellow. Five acres irrigated every week stood still and yellow all summer without wilting, and fifteen acres wilted without turning yellow—wilted all over in large patches—reviving at once and growing when watered and then wilting again in seven days. All this was on the same kind of ground, with alfalfa of the same age and same irrigation. Yet no amount of water brought any alkali to the surfaee.

Meanwhile, manure in strips was spaded into tracts 10 inches deep, and some spread on the grain land. It was from 1 to 3 inches deep and planted with various things running out into unmanured land. With the exception of radishes, which showed a little difference, no effect was perceptible from the manure, showing that the trouble was positive, not negative. Other experiments made it eertain that the land was rich enough, that the heat and dry air had no effect, that the wind was not guilty of 5% of the wickedness that had been laid to it, and that the trouble was invisible alkali.

Alkali Not at the Surface.—This was alkali in place—in the place where originally formed—something rarely if ever seen outside of the desert, and even there only where the rainfall is so light that it

cannot remove it. Where there is rain enough, even at very long intervals, it is drained out of the looser soil on the upper slopes and carried down until the soil becomes too fine for further drainage, or has sheets of hardpan which stop it. Then, as fast as it is dissolved by the rain, it is carried down so far, to return to the surface by capillary attraction, with dry weather. A sheet of stagnant water too near the surface may act the same as hardpan, and if it carries much alkali it is quite sure to. Alkali generally works by accumulating on the surface and corroding the root crown. Where I am it does nothing of the sort, but remains several inches below, where its effect varies. Thus it generally makes alfalfa call for an immense amount of water to keep it from burning out in a warm sun, but melons generally stand still, no matter how much water they get Even the native gourd, which should grow 15 feet long without water, is often in perfect miniature all summer until cool weather comes in the fall, when it begins to grow. This, alone, is all the proof of alkali one needs. The reason why things grow in the gardens in Daggett is because they are grown entirely with surface roots caused by watering every day by sprinkling. And they will tell you they have to be watered every day on account of the dry air and the wind. The fact is true but the reason false. The reason why the alkali is invisible on 95% of the soil is because the soil is so coarse that the heat of the sun and air drive the rising moisture into vapor too fine for capillary attraction before it reaches the surface. Hence, instead of being deposited on the surface in a white sheet, as it is where the soil is fine, the alkali is left below, where the roots do not reach it at first. Therefore, things come up well enough, look well for a while, then stand still, and many finally die. There are also different strata at different depths, where it is stronger than elsewhere. Last month thirty people from Orange county came out here to take up desert land and bore for water. Most of them were farmers. They found plenty of fault, but not one of them mentioned alkali.

How to Get the Alkali Out.—Leaching is the only remedy for this terror of the desert. Gypsum to convert it, and sugar beets and such things to remove it, will do for spots on tracts otherwise good, but are too slow medicine for a whole tract. Ordinary irrigation will rarely do it without drains, which are expensive. Generally it makes it worse, bringing up more by capillary attraction. I find this the case in places even on loose soil. Even heavy irrigation—an inch to the acre—fails.

The process is like getting so much salt out of a sponge. You must put on water enough to force it out. If you merely saturate it, it remains to come back with drying. Some ground is so fine that you cannot force it, but have to let it come to the surface and rush big heads of water quickly over it. Some will dissolve at once and go down again, but some will float off and in time you may get off all the excess, if you have slope enough. I am having the best of success with both methods, and now have thirty-five acres of alfalfa that should give at least a ton to the acre next year, for six cuttings. But I expect to make it do much better, and with no more water than would be needed elsewhere. How long it will take and how much water are yet unknown factors. But of the results I am certain, for I now have on leached ground as fine volunteer grain as I would want, where at first I could not get it high enough to cut, while alfalfa treated like rice grows stalks 4 feet long, and, strange to say, does not scald, even in the heat of summer. There seems no exception where the water stands long enough and deep enough. But it must be under pressure. Such flooding as will do for irrigation is too slow, if, indeed, it will do at all. Places where thin sheets have run for days are as bad as any, but where it has been 6 inches deep for several days it seems finished. The settler must decide what he can afford to do in this line before he touches the desert, and be very wary how he attempts it with any kind of pump or expensive water. If he can stand it, he will learn to like the desert and find it a pleasant, healthy place, with plenty of returns for the man who is not afraid to work.

HORTICULTURE.

Strawberries in Southern California.

From a Paper at a Southern California Farmers' Institute.

There is none other among the small fruits that has more to interest or a greater diversity of methods of cultivation than the strawberry. Different soils and different localities call for different varieties to obtain desired results, but there are some things that apply to all localities and to all varieties, and no one man has yet combined into successful practice all the best things of the various methods used, or obtained uniform results from any particular plan pursued. The condition of plants, and the weather following their planting, will often upset the best calculations that are based upon former results.

We will only touch briefly upon the various points that seem to us to be of the most vital interest to those engaged in strawberry growing, and trust to subsequent discussion to elaborate as much as may be needed.

In that section of the State where I have the pleasure of living the business of raising strawberries has become one of great importance and profit, and is carried on with a degree of intelligence and careful detail that has earned for the locality of Tropico a deserved reputation for the finest strawberries grown anywhere in the State, and as fine as those produced anywhere in the entire country.

Planting and Cultivating.—In preparing the ground for planting, care should be taken to have 5 or 6 inches of thoroughly pulverized surface upon a good, firm subsoil; soil that is loosened and open to a greater depth than this requires more water for irrigation and gives greater trouble in firmly setting and starting plants. In fact, our observation would lead us to prefer a soil but little disturbed to one that has been broken up to a great depth.

When making final preparations for planting, the field should be free of all weeds and any refuse that will prevent getting a smooth and well graded surface. All labor expended with that object in view will be repaid many times over in better and more satisfactory planting, cultivation and irrigation.

Except on ground that has been impoverished by heavy cropping, we have never found commercial fertilizers of much benefit, and would hesitate to use anything in that line except pure blood and bone. After the first year on vines that have borne heavy a good dressing of stable manure or a compost of several kinds can be applied in the fall to good advantage and vines so treated will generally bear well the fourth year out, but stable manure worked into the soil will almost without exception call for more water, resulting in rank plants and berries of very poor quality.

In planting, several methods are used in laying out the beds, either in single or double rows, according to the nature of the soil and the results to be obtained in a given time.

Single rows are to be preferred in a soil that packs or bakes, while double rows give the best results in a sandy or porous soil where the water penetrates quickly, and the surface does not crust. When we do not plant the runners or permit them to fill in the rows we use from 40,000 to 100,000 plants to the acre, planted level and in rows 18 inches apart; in planting for matted rows only 10,000 to 12,000 plants are set to the acre in rows 2 feet apart. From this last way of setting no returns should be expected the first year, and all such obtained will be at the expense of future profits.

All the labor should be done by hand—weeding, cultivating, furrowing; it is far more effective and just as cheap as horse power. From the time the plants are set out until the bloom has set they should be kept thoroughly cultivated and in a thrifty condition. Then close and deep cultivation should cease and the soil be kept moist by more frequent cultivation and light soil mulching. Plants do well planted at any time from January to October. The time of planting should be governed by the results wished to be obtained in a given time.

What to Plant.—Experience has demonstrated that plants set as early as July and August as a rule will not fruit until the following spring in April or May; while plants set in September with favorable weather and good care will fruit in November and December. These early set plants all bear heavy crops of fine berries the first year, making but few runners and those late in the season. Plants set in January will generally give fair crops the first year and make plenty of sets, while those set later, up to April 1st, make rapid growth, few berries and abundant, strong, early runners.

The best methods to obtain a satisfactory fall and winter crop is to hold over plants by bedding out in nursery form. These should be set out in August and be kept well irrigated and thoroughly cultivated. These plants will generally commence bearing in October or November, and continue fruiting until frosts come. We have had in an exceptional season such planting continue fruiting for fifteen months, during which there was not a week that berries were not picked for market.

As to Variety.—While there are several varieties of strawberries that do well in our locality, the Brandywine has proven itself much superior to all others that have been tried, both for length of season and profitableness. Its large size, perfect form, deep brilliant color, eating and shipping qualities, make it a general favorite, as its almost exclusive planting shows, and justifies the reputation it has of being the best strawberry grown anywhere in the State. Whatever the variety planted, care should be used in the selection of the stock, and only strong, vigorous plants be used, for it takes more care, labor and expense in every way, except in the first cost of plants, to raise fruit from weak, degenerate stock, while the net returns are cut down one-half.

If fresh Eastern plants cannot be obtained it is better to get plants from a distance and from soil of a different nature. Good plants will do better the fourth year out than poor plants will the third year.

Continuous replanting will be of interest to those of small holdings who wish to keep in the business of strawberry growing. Soil of a good quality, containing plenty of humus, can be replanted without giving it rest by adding a moderate amount of pure blood and bone. Our own experience has shown that excellent results can be obtained by such replanting, though reports coming from most sections would indicate that the practice is not generally profitable.

Preparing for Market.—The preparing of the fruit for market has probably received more attention in the section about Tropico than anywhere else in the State, and if it is worth while to raise strawberries, and good ones, it is certainly worth while putting them up in the best possible shape for market. When picked they should be immediately taken out of the sun and wind; the grading should be done in the field and the packing and final crating should be done in the shade, with the least possible amount of handling.

Far better work will be done by the hour than by the piece. Any berry that will not reach the consumer in good condition should never be put in for market.

Tell your pickers and packers to reject all fruit such as they would be unwilling to eat.

We find it a good plan to put the grower's name in each basket on a slip of paper; it helps the grower if his goods are right, and protects the consumer from imposition.

There is a good market in the far Eastern cities for berries from October to January, but unless the shipper is willing to take the utmost care in selecting and handling the berries before starting them on their long journey, nothing but loss and disappointment need be looked for.

We have found that a registered trademark helps to distinguish and give a reputation, for when you feel that you have a good thing it is easier to persuade others that you have such.

From the time you start to prepare the ground until your berries are in the hands of the consumer, if you wish success, you must study every step of the process and meet the necessities and conditions as they appear, and, simple as the growing of strawberries may seem, you will find it an occupation that calls for active, intelligent effort.

THE GARDEN.

The Common Garden Mole.

By D. E. Lantz of the Experiment Station of the Kansas State Agricultural College.

The common garden mole (Scalops aquaticus machrinus) is abundant over all the cultivated portions of eastern and middle Kansas. In spite of a continual warfare upon them by the owners of the lawns and gardens, they are undoubtedly rapidly increasing in numbers, especially in the vicinity of towns and farm buildings. In these places they find the cool, moist soil under sidewalks and in the shade of buildings and trees where their food is most abundant. Here, too, they find places of safe retreat from their chief enemy, man.

Moles have few natural enemies. As they seldom come to the surface of the ground, they do not readily become the prey of cats or predaceous birds. Their eyes are rudimentary, but enable them to distinguish the presence of light, so that when they accidentally come to the surface of the ground, they immediately make an effort to burrow into the soil again. Their food consists chiefly of earthworms and insects that live in the ground. The presence of moles in large numbers at any place is an evidence of the abundance of their food, and there is no doubt that they do much good by destroying many noxious insects, especially the larvæ of Lachnosternidæ (May and June beetles). If it were not for the injury done to lawns by their throwing up ridges of earth along which the grass dies, or to gardens by their loosening the roots of young plants, moles would be more beneficial than harmful. Aside from the destruction of insect pests, they stir the soil in corn and alfalfa fields in a beneficial way. They seldom eat grains of newly planted corn. Much of the damage in this direction, so often attributed to moles, is often done by species of mice that follow in their run-ways. It is also true that moles sometimes kill young plants and trees by cutting off their roots just below the surface of the ground, but this is not by way of getting food, but solely because the roots are in the way of the animal's progress.

Prof. L. L. Dyche, of the University of Kansas, has published the results of a careful study of the food of the mole. Sixty-seven specimens taken in the various months of the year, except December and February, were examined, and food was present in the stomachs of fifty specimens. Of the total food present, earthworms comprise 43.20%; ground beetles, 22.7%; grubs and larvæ, 22.8%; vegetable matter, 3.7%; other materials, largely insect eggs and ants, 7.6%.

Experiments in destroying moles have been made by the writer during the past three seasons with varying success. The poisoning experiments were made with much doubt as to the character of the results that would be attained, owing to the great difficulty in finding suitable baits. Strychnine, the

poison which proved most successful in destroying rodents, was assumed as the best adapted to the work.

With shelled corn soaked iu a solution of strychnine and syrup, some of the moles were killed, but no data as to the relative number could be obtained.

With sweet corn in the milk or roasting ear stage, cut from the cob and similarly treated, a large measure of success was attained and nearly all the moles destroyed.

The kernels of unroasted peanuts, in which strychnine crystals were placed, were found to be reasonably successful bait, and are recommended when green corn is not available.

Bits of meat or dead insects properly poisoned will prove successful, but with the meat there is great danger of poisoning dogs, since the mole burrows lie close to the surface of the ground.

The sense of smell seems to be strongly developed in moles. My experiments have verified the statement that if ordinary moth balls are dropped into their run-ways and these covered, the moles will not again use them until the moth balls have entirely disappeared. This does not, however, prevent their working in nearby places.

Traps for catching moles are sold in most of the hardware stores. Nearly all of them work by the use of a spring coil which, when released, drives a number of sharp tines into the ground and through the mole. Some experience in setting these traps will lead to the best results; but trapping is a much slower process than poisoning.

Moles are usually actively at work in the early morning or late in the afternoon. At times there is also a short period of activity about noon. It is not difficult to kill them with a pitchfork when they are working, the animals being located by observing the movement of the ground above them.

If water is allowed to run into the burrow and fill it, the animals when present can be forced to come to the surface to avoid drowning, and may be easily killed. The writer at one time killed a female and six young at one such operation.

The best remedy for the damage done to lawns and grass plots by moles is prompt rolling with a heavy roller. By continued repetition of this the moles will be driven away, at least temporarily.

THE VINEYARD.

Establishing a Resistant Vineyard.

By Frank T. Swett, at a meeting of the California Viticultural Club.

I have been asked to give a brief account of our experience in establishing a vineyard on resistant stock in the Alhambra valley. Phylloxera began work in our old vinifera vineyard in 1897. We have now pulled up and replanted about eighty acres. Our land is unusually varied in character, some rich valley alluvium, varying from black loam to adobe; some steep hillsides, varying from an easily tilled clay mixed with sand to streaks of sticky adobe, hard to till in winter and tending to dry out in summer and crack open, unless cultivated with the greatest care.

The Location Described.—Our rainfall averages 21 inches, being much less than that of Napa or Sonoma. It is about equal to that of Sacramento. However, unlike Sacramento county, there is no chance here for irrigation. It must be remembered, also, that rainfall and irrigation are not the only sources of water supply for vine roots. On level lands the water table or underflow plays an important part. For instance at Lodi, where we have a nursery of resistant vines, the level of underground water is about 11 or 12 feet below the surface. By the time a grape vine is old enough to bear, its roots have reached the water table and the vine pumps its own water. At Fresno the water level is still nearer the surface—4, 5 and 6 feet—so close, in fact, that it often does more harm than good. But in the Alhambra valley it is 20 to 25 feet to water on the bottom lands, so that vines are limited to what they can get from the annual rainfall. On the steep hillsides there is no underflow from water. You will realize from this description that in a year of short rainfall. or in a year when cultivation is difficult, moisture conditions may become somewhat trying to the roots of vines or trees requiring a constant and abundant supply of soil moisture. Similar conditions prevail in a number of the coast counties; our district is much moister than parts of Alameda and parts of Santa Clara.

Rupestris St. George.—The basis of our planting has been Rupestris St. George, and, on the whole, we are well satisfied with the results. There are spots and streaks where it does not do as well as we would wish, particularly when grafted with certain varieties, which I will mention. But on all of our land that is deep, fairly mellow and fairly moist it thrives, and when grafted continues to thrive. On some shallow spots, where the bedrock is within 3 feet of the surface, it is evidently out of place, and on streaks of black adobe, difficult of tillage, which dry out in the summer and fall months, grafts on it are subject to sunburn. It has been forcibly impressed upon my observation that vines grafted on resistant stock require more moisture than either ungrafted resistant vines or European non-resistant vines that are upon their own roots. A Rupestris St. George ungrafted, for instance, almost never suffers from drought or sunburn. Why should it when a vinifera top is grafted on it? The St. George in its wild state lives and thrives in a dry country, growing on gravel banks and the sides of dry ravines. Its roots penetrate deep through the porous gravel, seeking whatever moisture may be there. If you examine the foliage of the St George you will notice that the leaves are small, evaporating but little moisture, as compared with the large leaves of most vinifera; that it is varnished and close-grained, and not rough and loose-textured, like a vinifera leaf. When the weather becomes intensely hot the leaves automatically fold up, like a butterfly's wings, thus exposing only a small surface to the sun. The sap channels of the wood are small, while those of vinifera are large. Now, when you plant a Rupestris St. George on a shallow soil, lacking in moisture, or on heavy clay that becomes dried out in August and September, while it can protect itself as long as it has its own proper head on its shoulders, grafting changes all this—the top gives off by evaporation more than it can receive from the roots, and the consequence is occasional severe damage by sunburn. The vine cannot stand the strain, and is like a man with champagne taste and a beer income.

Fortunately, however, this is a common occurrence, and is not likely to occur in most of our vineyard districts. But I mention it, as some years ago the Rupestris was recommended through the press as being particularly suited for very dry soils. I differ materially from any such view. It needs good soil and an abundant, but not excessive, supply of moisture. In any reasonable soil it will carry our ordinary wine grapes in fine shape. It is a strong and sturdy root, and is the best all round root we have in California. Vines grafted on it come into early bearing and bear heavy crops.

Table Grapes.—Table grapes are somewhat more difficult to grow on resistant stock, at least certain varieties, the Emperor, particularly. This variety has huge leaves, loose and coarse, and the vine even on its own root, in the absence of phylloxera, is not a hardy vine. When attempts were made to grow it on Rupestris St. George, on heavy clay soils, and particularly on hillsides, the results have not been good in our valley. Excessive sunburn has killed back a great many vines. The Emperor grafted on Riparia Gloire de Montpellier has behaved very differently, being free from sunburn; and the oldest patch in the valley has now borne three good crops and the vines are thrifty and vigorous, while a neighboring vineyard of Emperor on St. George is almost a total failure. Cornichon does better, but still, on dry clays, is not a success on St. George. On moist soils it is successful.

Muscat and Tokay do finely on St. George, even on heavy soil and on dry hillsides. Thompson Seedless is particularly at home on St. George, and three-year-old vines have to be clipped so that one can pass through the rows.

The moral of the experience we have had here is: First, choose a stock adapted to the soil; second, graft on the stock you use only such varieties as have a good affinity for that stock.

Riparias.—We have experimented with other varieties of resistant vines and the results, though not as good on the whole as with St. George, may be of interest. In 1897 we planted on a hillside of rather moist soil sloping toward the north six acres of old-fashioned unselected Riparia. They grew very slowly, but were large enough to graft in two or three years. While the vines have borne heavy crops the soil is too dry for Riparia and a good many vines have died out. These will have to be replaced with bench grafted vines on St. George stock The scion was Mondeuse. A neighboring block of Mondeuse on Riparia Gloire de Montpellier has done much better. But where we have planted good Riparias like Gloire de Montpellier on mellow, fairly moist bottom land, vines grafted on them have done finely. A little experimental plot of Muscat on Montpellier planted in 1900 has borne two heavy crops of fine grapes and in perfect condition.

We have been hunting for a suitable stock to plant out on our adobe streaks. The most promising at present is the Riparia Cordifolia Rupestris 106-8. In spite of its rather formidable name it is a good vine, with thick, fleshy roots that seem to push readily in clay. Its leaves withstand sunburn well. It is largely planted in France on such soils and it promises to do well here. As we have had it only four years we are not far enough along to announce any definite results. It certainly is a hardy vine and an immense grower, and if it does as well here as in France and Algeria, it will be a useful stock for certain soils. It is practically an improved Gloire de Montpellier, capable of standiug more heat and drought.

Lenoir.—We planted in 1898 an acre of Lenoir on a north hillside, from which a heavy growth of oak trees had been removed. While the vines grew well for a time, their roots have been invaded by root rot, to which they seem particularly sensible, and a good many vines have died out. We have some Lenoir, five years old, ungrafted, growing on an adobe hillslope which becomes quite dry in the fall. They are growing finely and bearing their second heavy crop.

New Hybrids.—Some years ago, 1900, I think, we planted at the request of the University, as an experiment, forty-four vines, eleven each of four Munson hybrids brought from Texas. They have been unable to withstand phylloxera and all except a few vines have died and been replaced by bench-grafted Rupestris St. George.

We are experimenting on a small scale with some of the leading hybrid French stocks. As we have had them only four years it is too soon for definite results. We are growing Emperor on eighteen different stocks to try to determine which, in our soil and climate, is best.

Among those worthy of mention are 3306 and 3309. These are hybrids between Riparia and Rupestris, possessing some of the good qualities of each. They are both thrifty and vigorous and adapted to quite a range of soils. The 101-14, of practically the same parentage, sunburns badly, and although I have seen it recommended for planting on clay soil, a few vines that we have on clay have nearly all died out, while St. George alongside are green and thrifty.

There has been a marked contrast between the Solonis x Riparia 1616 and 1615. Planted in parallel rows, six vines in each row, the 1615 all gave up the ghost one hot day in September when two years old, while the 1616 are in fine condition now. As the varieties are usually recommended as being about equally useful, this behavior is worth calling attention to.

A neighbor, who has planted a number of acres of Muscat very successfully on Rupestris St. George stock, planted as an experiment, on a low, wet corner of his place, about fifty vines of Muscat on Solonis. They are now three years old, and all dying, while the Muscat on St. George are doing well.

Summary.—To sum up as regards adaptation of resistaut vines to our soils, in the Alhambra valley, as determined by actual trial:

Rupestris St. George thrives on all good, mellow, well-drained soils. It does not always thrive on shallow soils, nor on very dry soils, although it does well on soils that are dry at the surface, but through which its roots can penetrate deeply in search of moisture.

The kinds of wine grapes that are doing well on this root are Aramon, Mondeuse, Petit Syrah, Mataro, Alicante Bouschet and Petit Bouschet. The only white variety we grow is Sauvignon Vert. This does finely.

Of the table grapes, Muscat, Thompson Seedless and Tokay do well. Cornichon does well, if the soil is quite moist. Emperor seems better adapted to other resistant roots than to Rupestris St. George, at least on dry soils. On soils where there is plenty of moisture, as at Fresno, where the seepage water is only a few feet below the surface, or in the Santa Cruz mountains, where they measure rainfall by feet, instead of inches, it may do all right.

Planting.—Our method of planting has been to plow the land not less than 18 inches deep and to plant either rooted resistant vines or bench grafted vines. While we have had fair success grafting in the field, we have found it on the whole more expensive, largely owing to the misses, and to the expense of removing suckers through one or two seasons following the grafting. With bench-grafted vines the stand is practically complete the first year, the vines can be planted with the unions above ground, thus preventing the formation of top roots, and the growth being more regular, there is less work in tying the vines to the stakes.

Grafting.—We began bench-grafting in 1897, and our results have varied from 38%, the lowest, up to 75%, the highest. Our average has been about 50%. We have usually used the English graft, tying with raffia, and callussing in sand-bed. This year we have experimeuted with a method used in France, grafting cutting upon cutting, without tying, laying the cuttings in boxes of moss, placing the boxes in a hot-room until callussing has taken place. Our results with this method, which is cheaper than the old method of tying, are apparently very good, and we expect a high percentage, difficult to estimate before digging, however. We estimate about 65%.

In conclusion, I will state that while we have made some headway in the past few years in learning how to select stocks for particular soils, there is still a great deal to be learned. It is gratifying to know that both the University and the United States Government have established large experimental plots, where problems of adaptation and affinity can be worked out systematically and thoroughly. I feel that every vineyardist should encourage such work, as well as work along other lines of research, particularly the investigation of the little-understood vine diseases that are at work in a great many parts of the State.

The bursting of dams is due to various causes, but the usual cause is an insufficient factor for safety. In some instances the shock of earthquake has weakened a dam of masonry or conerete, and collapse has resulted, but this is an unusual occurrence, particularly in the United States.

Agricultural Review.

Alameda.

POULTRY EXHIBIT. — Oakland Enquirer: The Alameda County Poultry Association has decided to hold a big exhibition of thoroughbred fowls about December 1st. The Oakland Poultry Association, which usually gives a big annual exhibition, has not yet decided to do so this year. It is thought, therefore, that the present show will attract a large number of fanciers and fowls. The committee in charge consists of A. H. Gregory, chairman; C. D. Postel, E. K. Healey, A. Norton and O. C. Benjamin. The judges will be C. G. Hinds, R. J. Venn and James Heague.

Fresno.

DRYING PEACHES.—Selma Enterprise: Last week the work of harvesting the peach crop commenced in earnest and growers are kept on the move handling their product. About 2000 tons of peaches are dried by orchardists in the vicinity of Selma, and this means employment for hundreds of women and girls during the cutting season. The women are busily engaged in the cutting sheds where they are most apt in the work which requires nimble fingers. It is light work and the women have no rivals in this field. They make from $1 to $2 a day cutting peaches and many families add very materially to their income by such labor. The orchardists will secure from 5 to 6 cents a pound for their dried peaches, and this will bring into the town about $200,000 for the total product shipped from here. Many orchardists sold their dried peaches early, by contract, and secured lower figures than if they had waited. The green peaches sold to canneries was also sold from $10 to $15 a ton cheaper than the later market price.

Kings.

BUTTER OUTPUT INCREASING.—Hanford Journal: H. A. Moore, superintendent of the Kings County creamery, now operated by Carl Raabe of Los Angeles, states that the supply of butter fat being received at said creamery is increasing right along now and so is the butter output, also. To-day there was an advance in the price of butter fat from 19 to 20¼ cents per pound, which makes the dairy farmer smile, as the price of that commodity has been ruling rather low of late.

Mendocino

HOPS LOOKING UP.—Ukiah Republican Press: Hop growers are feeling jubilant over the prospects of the hop market. It is claimed that prices will be better than they have been for years and some hope that the 30-cent mark will be reached. A prominent grower received a little this week from a well-known hop man, in which it is stated that 22 cents was paid in Oregon last week. He also thinks 25 cents is certain to be reached, and says that the probability is that before September is out he would not be surprised to see 30 cents offered. At the meeting of the Hop Growers' Association Saturday the price for picking was set at $1 a hundred pounds. It was agreed that if any picker quit before the crop was harvested he should receive only 75 cents a hundred. Picking will commence about August 25.

SMALL YIELD OF GRAIN.—Ukiah special to Sacramento Bee: John Brown's thresher, after a run of only six and a half days, has been put in the shed. The amount of grain threshed by Mr. Brown in this valley will not exceed 10,000 bushels. The Crawford Bros. have threshed some, but the total output will not exceed 30,000 bushels. It has not been many years since when the threshers would be at work from fifty to sixty days. Fruit and hops have taken the place of grain, and the change has proved beneficial to the farmers.

Napa.

LARGE CANNERY BURNED.—About 11 o'clock last Monday night fire broke out in the cannery of the Napa Valley Packing & Canning Co. at Napa. The flames totally destroyed the big building and reduced to ashes seven cottages near by. The loss sustained is estimated at $150,000, with insurance in different companies covering two-thirds that amount. It is believed that crossed wires in the office started the blaze. The fire throws 309 people out of employment. All of the cottages were the property of the company, and in them lived the employes of the cannery. Large quantities of green fruit —consisting of pears, peaches and plums —were in the building.

Orange.

ORANGE CROP WILL BE LIGHT.—A Fullerton dispatch says: A. S. Bradford, director of the Central Orange Growers' League, says complete returns from the orange sections of southern California show that there will be a light crop the coming season, and that it will not run over 20,000 carloads. The crop will be light in the Fullerton-Placentia district—especially on Washington Navels.

WALNUTS DROPPING.—Walnuts are reported to be dropping in some groves in the Fullerton-Placentia district, and there may be a short crop in this walnut belt.

Riverside.

MELON GROWING AT THERMAL.—Enterprise: T. C. Todd, of Thermal, reports a most satisfactory year for the melon farmers. His own ranch of eleven acres yielded more than 2600 crates of cantaloupes. The earliest melons sold for 50 cents apiece in Chicago, and the price throughout the season was good. This is the record yield for cantaloupes for the amount of land in use. Mr. Todd ascribes the extraordinary fertility of the field to the fact that he turned under a heavy crop of barley hay, a crop that would have yielded four or five tons to the acre. This supplied the humus so necessary to the soil and made a perfect fertilizer. Mr. Todd is also raising 100 head of hogs, which he feeds on alfalfa and refuse melons. He thinks the hog industry will be a profitable one on the desert ranches.

PROFIT IN MELONS.—Monrovia Messenger: Mr. H. J. Rogers, superintendent of the Mecca Land Co., reports that the Mecca association of vegetable growers will net its members about $140 per acre for cantaloupes and other melons. The land company has a 700-acre tract set to melons this year, and individual holdings vary from small gardens to 40 or 50-acre tracts.

San Benito.

A $50,000 HAY FIRE.—Hollister Bee, August 5: Warehouse No. 2 of the Lathrop Hay Co. was burned early yesterday morning, together with 3649 tons of hay, entailing a loss of $50,000. Insurance was carried to the extent of $28,800, making a net loss of $21,200. The warehouse cost $13,500 and was insured for $8000, and the company lost $4500 worth of hay above insurance, making a loss of $10,000 for the Lathrop Hay Co. In the fire of two years ago the Lathrop Hay Co. lost $9000. The value of the hay destroyed in the fire yesterday was $36,500, at $10 a ton, and the insurance was $20,800, making the loss on the hay $15,700.

San Diego.

JULIAN APPLE CROP. — Union: Report from Julian is that something like 30,000 boxes is a safe estimate of this year's apple crop: the fruit is of excellent size and quality. Julian, in fact, is what might be called the apple-raising center of the county, and this with very little irrigation. Two local commission houses have already purchased jointly close to 20,000 boxes.

San Luis Obispo.

BEST ALMONDS. — Tribune: Report comes from the World's Fair that the nuts on exhibit there that were supplied by M. Gerst, the well known Oak Flat farmer, are the best in the big exposition. The competition is open to the whole world, and, until some one can grow better nuts, Mr. Gerst has the honor. If, in the final judgment of the exhibits at the fair, Mr. Gerst gets a decision as favorable as this preliminary report, he will receive official recognition by the fair authorities. The almonds exhibited are of Mr. Gerst's own origin and bear the name "Paso Robles Perfection."

GREAT GRAPE VINE.—Tribune: Back of J. B. Gaugler's building on Higuera street is a grape vine of the Mission variety. The vine is very stocky, yet is fully 75 feet long in its many branches. The building is two stories high and on the back is a large out-doors room some 20 feet square. The vine covers this entirely and also branches over onto an adjoining building, and more or less in all directions. It is laden with grapes, even more than usual this year, and Mr. Gaugler says he has made thirty gallons of wine each year for three years. Mr. Gaugler says he frequently ties paper sacks around some of the bunches, which serves to keep off the rains, and in this way he saves the grapes in good condition for several months after they would otherwise have dropped off. This vine was planted by Mr. Gaugler about eighteen years ago.

Santa Clara.

RUSHING APRICOTS TO MARKET.—Journal: Quite a number of teams heavily loaded with dried apricots have passed through town to the depot this week. We have been unable to learn the price at which the fruit has been sold or the price asked for it by the grower. It would seem, however, that the fruit is being rushed to market too soon after leaving the trays. The course is unwise, unless previously contracted at prices that will give the grower a good profit. Apricots are a ready sale almost any time of the year. The supply of this fruit in the dried state is limited, and, unlike prunes, does not glut the market and beg for a price.

PRUNE HARVESTING. — The prune growers are actively at work preparing for the harvest that is now almost upon them. A few early prunes have already been gathered, but the curing of the fruit will not be under full headway for some days to come. Many of our people are now engaged in caring for fruit, some in drying and packing houses, others gathering fruit, etc., giving paying work to many people.

Sacramento.

LARGE MELONS.—Union: Three large cantalonpes are on display in the Chamber of Commerce building. They were placed on exhibition by Waldeck Bros. of Yolo county, on whose farm they were grown. These melons are of a new variety and are named Waldeck cantaloupes, after the growers. They have a combined weight of seventy-five pounds and the largest melon weighs thirty-two pounds.

FIRST TOKAYS. — The first Tokay grapes to be shipped this season were forwarded through the California Fruit Distributers last Tuesday by the Pioneer Fruit Co. from Florin. They were of good color and size. The crate was destined for New York.

Sierra.

BIG SHIPMENT OF SHEEP.—Loyalton special to Sacramento Bee, Aug. 5: Forty-five cars of sheep, a total of 7200 head, were shipped out of Sierra valley from Beckwith over the Boca & Loyalton Railroad yesterday. It required four engines working from 3 A. M., when the loading began, until night to get the cars over the hill. The sheep are for the Chicago market. This is the largest single order the Boca & Loyalton Railroad ever handled.

Sonoma.

CHOICE APPLE SHIPMENTS.— Santa Rosa Press-Democrat: The shipment of apples from the Hotchkiss ranch, near Healdsburg, will be heavier than usual, according to the manager, Mr. D. L. Hotchkiss. The apples are put up carefully in separate wrappers, and after being sized are packed in fifty-pound boxes under the Hotchkiss brand. It is expected that over 600 boxes will be sent this year to the San Francisco market.

BLACKBERRIES AT SEBASTOPOL.— This is the most active season for the blackberry shippers around Sebastopol. Fruit is bringing $30 a ton and is being shipped and hauled to the canneries in great quantities. G. L. Ayers, the agent of the Merritt Fruit Co., bought six cars of berries the past week.

GLANDERS IN ALEXANDER VALLEY.— Dr. J. J. Summerfield went up to Alexander valley on Saturday to inspect another case of glanders among horses in the valley. He went at the instruction of the district attorney, at whose request he also inspected a horse in Dry Creek valley last week. The latter animal was found to be suffering from the dread disease and was slaughtered. The animal had been in contact with other horses and they are under surveillance.

BIGGEST CROP OF HOPS.—T. Boone Miller was in town yesterday from his Russian river hop ranch. He says the hops are looking fine and he will have the largest yield the yard has turned out.

PEACHES A FAILURE. — Healdsburg Enterprise: M. C. Sarginson, who last year harvested thirty-five tons of peaches, states that his output this year from the same orchard amounts to exactly sixty-five pounds. Mr. Sarginson also stated that his crop of prunes this year will not be so large in quantity as last year; the quality and size, however, are far ahead of last year, and he expects his orchard will realize him more than last year.

Stanislaus.

A PROLIFIC FRUIT FARM.—Oakdale Leader: D. S. Stuart will realize handsome returns from his prolific fruit farm this season. His crop in general will make a better yield than that of some of his neighbors. His output of dried fruits will be good and prices remunerative. A good portion of his orange cling peaches have been disposed of to a Stockton cannery and his crop of pears to a Fresno firm, both at good prices. The latter brought $27.50 per ton at Oakdale. A few years ago Mr. Stuart dug up his apricot orchard, believing it to be a fickle crop at best. This land he planted to almonds, a large portion of the trees now being in full bearing. From this crop he will receive handsome returns this season.

SALE OF ALMONDS.—H. A. Marckres states that, taking all of his fruit and nut crops together, the returns would be fairly good this season; that he has sold his almond crop, including all grades, at 10 cents per pound, delivered at Oakdale.

A FINE CROP.—Modesto News: L. H. Hammett, who lives on his ranch near Salida, has just finished harvesting the banner crop of wheat of the season. Mr. Hammett cut 100 acres of wheat which ran a fraction over fourteen sacks to the acre. The wheat is the White Australian variety and is very heavy, and will bring $2 or $3 per ton more than the other varieties.

Sutter.

EXPERIMENTING WITH NEW WHEAT. —Yuba City Farmer: Sample lots of new seed wheat from Russia were planted on a small plot of ground on the farm of B. F. Walton, below Yuba City. The seed was procured by W. F. Sperry, manager of the Sperry Flour Co.'s mill in Marysville, with the object of ascertaining whether the same would be adapted to this valley. Out of the seven varieties planted five did very well, and Mr. Walton recently gathered the same and will have the seed thrashed out. The wheat made a good growth and the yield was much better than was expected, as the seed was planted the latter part of April and matured in July. Most of it is bearded, but there appears to be no tendency to shell out by the wind, like the local bearded wheat. The kernels are plump and very hard and of good milling grade. The best samples of this new crop will be saved and replanted, so that in a few years some choice lots of seed can be secured and placed on the market.

Tehama.

CORNING ALMOND CROP.—Red Bluff News: E. A. Warren of Chico on Monday contracted for the local almond crop, including the three Hatch varieties, for 12 cents per pound. The crop from the Kraft, Woodson, Crooks, Inns and Atkin's orchards is estimated at fifteen tons.

Tulare.

A REMARKABLE COW.—Porterville Enterprise: J. C. Thorn, Jr., has a remarkable Holstein cow which is now fresh, its udder when full of milk measuring 5 feet 4 inches in circumference, almost the size of the cow around the girth, behind the shoulders, which measures 6 feet 4 inches. The cow was bred in Wisconsin, its registered number being 25029 H. F. H. B. Mr. Thorn obtained it with others from Hewitt & McNulty of Selma and the bull from George C. Roeding of Fresno. Mr. Thorn has had it photographed and thinks there is no other cow to equal this one in the State.

Ventura.

FAMOUS RANCH SOLD.—The famous ranch of San Miguel, the property of the late Dixie Thompson, is about to be sold. Frank J. Carolan of San Francisco and Burlingame, who married into the Pullman family, and who is a millionaire himself, is the prospective purchaser. Mr. Carolan has an option on the ranch until October. The price reaches the half million mark.

Yolo.

HOP PICKING BEGINS.—Sacramento Record-Union, August 4: Charles Merkley, of the firm of Merkley Brothers, who conduct a large hop ranch in Yolo county, began picking hops yesterday morning, using only white help. In speaking of this feature of the hop harvest Mr. Merkley said: "There should be no trouble in getting all the white help required for hop picking this season. I put about 100 men to work this morning, and I have had to refuse the services of fully 100 or more during the day. I believe that I lead in beginning the picking this season, and I am sure that I have the heaviest crop in Yolo county."

Yuba.

HOP NOTES.—Wheatland Four Corners: Everything is hustle about the Wheatland hop yards at the present time and arrangements are being completed for harvesting the crop, which begins between the 8th and 15th. The crop will exceed that of 1903 by probably 600 or 700 bales, and the product will be of good quality. A few early hops were picked and cured by Durst Bros., the first of the week, and these, we believe, bear the distinction of being the first new hops in the State. Pickers are coming in in large numbers and help will be plentiful.

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The safest, Best BLISTER ever used. Takes the place of all liniments for mild or severe action. Removes all Bunches or Blemishes from Horses and Cattle. SUPERSEDES ALL CAUTERY OR FIRING. *Impossible to produce scar or blemish.* Every bottle sold is warranted to give satisfaction. Price $1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars.

THE LAWRENCE-WILLIAMS CO., Cleveland, O.

The Home Circle.

Agricultural Courtship.

A potato went out on a mash,
And sought an onion bed;
"That's pie for me," observed the squash,
And all the beets turned red;
"Go 'way," the onion, weeping, cried,
"Your love I can not be:
The pumpkin be your lawful bride,
You cantalope with me."

But onward still the tuber came,
And laid down at her feet;
"You cauliflower by any name
And it will smell as wheat;
And I, too, am an early rose,
And you I've come to see,
So don't turn up your lovely nose,
But spinach at with me."

"I do not carrot all to wed,
So go, sir, if you please!"
The modest onion meekly said,
"And lettuce, pray, have peas.
Go, think that you have never seen
Myself, or smelled my sigh;
Too long a maiden I have been
For favor in your rye."

"Ah spare a cuss!" the tuber prayed:
"My cherished bride you'll be;
You are the only weeping maid
That's current now with me."
And as the wily tuber spoke
He caught her by surprise,
And, giving her an artichoke,
Devoured her with his eyes.

—Florida Parishes.

The Hazelnut Syndicate.

Farmer Baggs sat by the kerosene lamp reading the Clarion County Weekly Register with the aid of a toil-hardened forefinger, while eleven Baggs children, of both sexes and all ages, rioted around the room, and slatternly Mrs. Baggs washed dishes.

"Hesh up! Hesh up! Keep quiet while I read your Maw something," commanded the farmer, and obtaining a half-silence, he read the following squib from the column of "Market Pointers":

"Nuts of all kinds will be scarce this year. Prices for choice shelbarks, walnuts, butternuts and hazelnuts will make the foresighted gatherers of the light crop rejoice, and by Christmas it is wagered that shelbarks and hazelnuts will be bringing $5.00 the bushel."

"Five dollars a bushel!" The farmer's little eyes, set close together in his head, twinkled greedily as he repeated the words, "Five dollars a bushel, Maw, for nuts that in orn'ery times just lay for the pigs to git fat on."

"Wal, why not? That ain't no great piece o' news to read out of the paper 'thout you got a nut crap to sell fer the fancy price," said the mother, discontentedly ladling more softsoap into the dishpan.

"The bottom lands along the crick is just about all hazel bushes," said the farmer, "and the man that wrote that piece hain't seen 'em full of the fattest kind of nuts or he'd have left this section out as an honorable exception."

"They isn't many on our land, Paw," screamed the children, taking a hand in the conversation, "fer we haven't got much bottom land. Th' most hazelnuts is on th' Marlattses place, and they've just got lashin's of 'em."

"Dod rot it!" said the farmer, throwing down the newspaper. "To think that that low trash of a John Marlatt has got a crap that he'll get $5.00 a bushel for, just for the pickin', and all we make is a bare livin' by the hardest kind of work." This from a man whose barn was bursting and whose corn and wheat crop was the best in the county.

"I reckon John Marlatt needs his hazelnut crap," said the woman. "Mis' Marlatt's been under th' doctor's hands goin' on six months now, an' that place of his, purty nigh all rocks an' crick bed, ain't no place to git fat on, the best o' times. I reckon if it wa'nt for his big passel of hogs, he'd jest give up an' let th' sheriff take him."

"There you go, Maw, takin' sides with that skunk, 'count of your being so thick with his wife. I verily believe that he'll turn his hogs out on the bottom and let 'em eat them $5.00 hazelnuts," said the elder Baggs, fairly groaning.

"Wal, let him—it doesn't come out o' your pocket," snapped Mrs. Baggs, and went to stowing piles of dishes in the dresser.

"I wonder, does John ever see the Weekly Register?" said the farmer, reflecting. "No, I don't believe he does, for he's too dratted poor to take it. Jest think of the sin of feedin' $5.00 hazelnuts to hogs—I can't and won't stand it!" Farmer Baggs fell into a deep train of thought, oblivious to the noisy goings on around him, and when he got on his feet, with a "Here, you rowdies, git to bed!" a cunning plan that was to pay big dividends had formed in his brain.

The next time the farmer met his neighbor, John Marlatt, a patient, discouraged little man, he was unusually cordial.

"Howdy, John! Have a chaw?" he asked, producing a bag of fine cut, his only dissipation.

"Don't keer if I do," said John brightening up at this unwonted kindness.

"How's your wife, John?" asked the farmer.

"Mis'able, mis'able," said John, taking a chew that wrung the heart of the stingy farmer.

"I 'low we're going to have right smart of frost in a few days," said Baggs.

"Yes, I'm calculatin' on frost, and I'm waitin' fer one to turn my hogs out on the bottoms to fatten up," said the unsuspecting John, spitting happily. "I hain't got the corn to fatten with, and I hope they'll pick up enough mast to make 'em prime. A lot depends on them hogs," said John, "fer if they do well, it'll pay the way fer my wife to go to the hospital in the city and git operated on, and come back strong and well."

"Sho! I hope so," said Baggs uncomfortably. "Say," he said as if by an afterthought, "I hain't got many hazel bushes on my place and the young 'uns set great store by hazelnuts—any objections to their coming over on your land and pickin' a few?"

"Not at all, not at all," said the little man. "let 'em come, and welcome."

"Much obliged; well, I must be movin'," said the farmer, his object gained.

Mrs. Baggs was over to the Marlatt place calling on Mrs. Marlatt when Baggs got home. The children were romping about as usual and he called them around him.

"Children," said he, "I'm a-going to form a syndercate!"

"What's a syndercate, Paw?" they asked.

"You're all to cross your hearts and not tell a livin' soul, 'specially your Maw, what this syndercate is," pursued the farmer. "A syndercate is when two or three gather up a hull lot of something that's scarce and when folks has jest got to have the stuff you sell dear what you bought cheap. Now, you and me's going to be a syndercate on hazelnuts and gether up a hull lot; every bushel you pick up and store in the old ice house down by the crick, I give you, let's see—yes, I'll give you twenty-five cents for."

Twenty-five cents a bushel for picking up hazelnuts! Their father promising them all that money—it seemed wildly incredible, but there was an unmistakable ring of business in his tones and the circle gave vent to loud whoops.

"But, Paw, we ain't got many nuts on the place," said the oldest boy, his spirits falling.

"You can roam free where you like to find nuts," said the guileless Baggs. "I just now saw John Marlatt, and he give you youngsters free run with his hogs to pick all the hazelnuts you want on his land."

"Oh, goody, goody," said the tribe, silver pieces dancing before their eyes.

"Your Maw ain't to know," warned the head of the syndicate, "and it'll be a fight between you and the hogs for the nuts—I reckon you'd better be on the ground right early when there's been a frost."

"We'll drive the hogs out of the bottoms," said the boys, with greed in their eyes.

The old ice house standing on the shore of the creek was an ideal building for the hiding away of the syndicate's stock. It stood in a lonely place where few went, half underground in a high bank. Farmer Baggs cleaned it out, patched the rotten floor, built rough bins, bought a padlock for the door and was ready for business.

The frosts came, light touches at first, that sent down the nuts in small quantities. The Marlatt hogs, a hundred strong, were turned out to eat and grow fat, but from the first had slim pickings. It was a small matter for the boys to take turns keeping them on the run with the aid of a dog, and the rest of the tribe worked with diligence, each intent on filling his or her special bin in the ice house. When the nuts were picked up, they worked at clearing away the underbrush in the thickly laden copses, and when there came a genuine "black" frost and the clusters of fat nuts in their shucks lay in windrows, it was almost like play to gather a bushel bag full and the score of each Baggs child ran up miraculously.

"You young ones better bring back a little mess of nuts with you every morning you go out and show 'em to your Maw, so's she won't suspect there's a syndercate working by wholesale—I'm going to give her a big surprise when I sell the crap," said the elder Baggs, inculcating a fine lesson in hypocrisy. Regularly, every frosty morning, he had an errand down by the creek, and standing at the ice house door, he beheld with growing satisfaction the bushels of hazelnuts brought in by his offspring, and for every bushel he handed out a fine-cut tobacco tag, which he promised to redeem with a shining quarter when he marketed the spoils. When the first snow covered the ground and the crop was gathered in, each boy and girl had a surprising number of these tokens, the bins in the ice house were overflowing, and the Marlatt hogs, thin and leggy with much running, were free to nose under the snow for the few nuts that the Baggs tribe had missed. Then, with a comfortable assurance that he had saved a valuable crop, worth $5.00 a bushel as soon as the holiday demand should arise, Farmer Baggs snapped the padlock on the ice-house door, and seeking the genial warmth of the kitchen fire, chewed fine cut and watched the Clarion County Weekly Register for the word to sell.

John Marlatt was sublimely unconscious of the liberal manner in which his permission to gather hazelnuts had been availed of. John had had his hands full in caring for his sick wife and working for his wealthier neighbors, shocking corn and carting pumpkins. When he got a chance and rounded up his hogs to see how they were putting on fat, he was astounded at their wildness and lean condition.

"Don't that beat time!" he said dolefully to himself, "with that big crop of nuts to browse on, they've actilly got thinner and I've got to buy corn to fat 'em on, and that means no profit and Sally can't have the operation." with a long face he went to farmer Baggs and spread the situation before him.

"I got to git a little corn on 'commodation till I kill my hogs," he said, "th' pesky critters is as lean as hounds down there in the bottoms after eatin' a big crap o' mast."

"I 'low corn is about the same as cash with me," said Mr. Baggs crisply, and the dejected Marlatt went away without any, for he had no cash. All that remained for him to do was to trust in God to send feed for his pigs and provide for that precious hospital operation, and Marlatt was a believing man. He got down on his knees in the bed of the creek, whither he had gone to take another look at the hogs, and made a plain statement of the case to the Almighty. When he got up and found the hogs he was met by a chorus of contented grunts from the animals, who were lying about, obviously stuffed to repletion.

"Blessed if they hain't nosed a square meal from somewhere a'ready, said Marlatt, and worried no more.

The weeks rolled on and the price of hazelnuts rose steadily. The head of the syndicate kept his unruly flock posted and a dividend was promised when the price struck $5.00 a bushel. When the figure got to $4.50 a bushel, it stuck there, and the younger members of the syndicate clamored for their silver quarters, threatening to tell their mother that they had "hooked" Marlatt's crop. This had the required effect, and Baggs, groaning in spirit, was obliged to clean up with the rest of the syndicate and go it alone. Two weeks before Christmas the price of hazelnuts rose to $4.60, and the farmer dared hold on no longer. He got into communication with a commission merchant in the city, who promptly telegraphed when he heard of this cache of fine nuts, to "ship them in, rush!" The hour of triumph was at hand. Throwing aside all disguise, Baggs bought a lot of clean, new bushel bags, and harnessing a team to his hay rack, loaded the tribe in to help and drove down to the ice house for the hundreds of dollars' worth of hazelnuts.

When he opened the ice house door there was a galloping sound from within like the rushing of many feet.

"Tarnation! What's that?" bleated the farmer, hastily lighting a lantern.

"Oh, Lordy, Lordy, Lordy! Oh, I'm ruined, ruined, ruined!" wailed Baggs looking into empty bins. "Somebody's been here and thieved my precious hazelnuts!"

"Here's the hole in the old rotten floor they come up through," said the grinning children, actually tickled to see their father weep. "And there's somebody under the floor now," they said, getting scared and preparing to run. A snuffling and snorting was going on under the floor and after several futile efforts a fat body came into view.

"There's one of the thieves, Paw," shouted the children.

"John Marlatt's hogs!" said Farmer Baggs, and wept.—Prairie Farmer.

Why the Left Shoe Wears First.

"Did you ever notice that people are right-footed?" asked the proprietor of a shoe store. "Watch my clerks, and you will see that invariably customers will put out their right foot when going to be fitted. Now, watch that corpulent woman going to sit down over there." The woman with great weight of body took a seat, lifted her curtain of black veiling, and as the clerk approached her she poked her right foot from beneath an expanse of skirt.

"It's always the case, and I don't believe I ever knew it to fail. The shoe manufacturers evidently are wise to this fact, as in the cartons the right shoe is always packed on top. Once I had a lot of shoes come to me with the left shoe on top, and it caused me so much annoyance that I wrote to the manufacturer, calling his attention to the matter so that it wouldn't happen again. The majority of people are right-handed, yet a left-handed person has the right-foot habit. The right hand is larger than the left, as it is used more, and consequently develops the muscles to a greater extent. On the other hand, the left foot is larger than the right in most persons. The difference is so slight that we seldom have trouble in fitting shoes, however. It is the left shoe that wears out before the right, and probably for this reason."—Shoe Retailer.

Danger in Soda Siphons.

Do you know that the siphon bottle ordinarily used for soda water and other effervescent drinks is usually charged with a pressure of from 120 to 160 pounds to the square inch? The danger likely to result from an explosion of one of these little household articles is by no means inconsiderable, and yet the average person handles a siphon as though it were the most harmless thing in the world.

There are two or three things to remember in handling siphons. Never keep your siphons near the range, for the unusual heat is more likely than anything else to cause an explosion. Don't subject the bottle to any sudden change of temperature whatever. For instance, if you keep your siphons in the icebox—and that is the best and safest place for them—don't grasp the glass part of the bottle with your warm hand, for the sudden change of temperature is apt to cause an explosion. The best way to carry a siphon at all times is by

the metal top at the head of the bottle. It is needless to say the greatest care should be taken not to drop a siphon, for an explosion is the inevitable result. When empty, the siphon is, of course, quite harmless.

That these bottles are considered a great source of danger is evidenced by the fact that the courts inevitably hold the bottlers strictly reliable for all damages resulting from the explosion of one of them if even the slightest defect in the manufacture of the bottle can be shown.—Washington Times.

Training the Muscles.

It is probably safe to assert that almost the only people who call upon all their muscles for work are a few all-round athletes. Nearly every one knows what it means to overwork one muscle or one set of muscles. The brawny arm of the blacksmith is a case in point, where one limb, by the very nature of the daily occupation, will be found to be proportionately much larger and stronger than any other part of the body. Then there are the special athletes — acrobats, jumpers and their kind—who often develop certain muscles to the point of deformity.

The body will always grow biggest at that place where the blood is most often sent, and where the muscles are kept in most constant action. This is why massage, or passive exercise, is so useful in searching out and supplying with blood and setting to work the parts of the body most inclined to inertia, either by reason of illness or, more often, by reason of neglect.

The needs of daily living cause most people to give more or less exercise to their legs and arms. Even the very old and feeble walk about their rooms and dress themselves. But many people neglect the outlying muscles, for example, those of the neck and back, and, most to be regretted of all, the abdominal muscles, a neglect greatly to the detriment of the general health.

It is easy to find out where the lazy, skulking muscles are. They are like tropical darkies in their disposition. If one does not insist upon their working they will lie down and rest forever. But start them up with any unwonted form of exercise, and what a fuss! What a grumbling and aching and limping round! There is nothing for it but to send the blood after them constantly as an overseer, and to keep them at it. When this is done the grumbling and the pain will soon disappear, and the joy which is the reward of honest work everywhere will become the portion of those muscles.

Those who regard any form of systematized exercising as a bore will do well to remember that there will never be devised anything better than walking, properly done, in the open air, to bring the entire muscular system into right control and get fair work out of it.—Youth's Companion.

Use Vinegar Sparingly.

Vinegar is one of the common condiments which is useful, perhaps, in small quantities, but certainly injurious if taken too freely. A dinner salad, with two tablespoonfuls of vinegar for six persons, is a good proportion. Vinegar, spices, in fact all substances, which in themselves preserve food materials, hinder digestion. A little acid, a very little, will sometimes prevent rapid, unnatural fermentation in the stomach, giving time for a weak digestion to assert itself. This habit, however, if continued for any length of time, will increase the digestive troubles by constantly aiding rather than strengthening the gastric secretions.

The stomach acid is mild and very easily overpowered by either strong alkalies or acid. Pickles preserved in vinegar are always to be condemned. They create an appetite by irritating the stomach, and, if continued, provoke gastric indigestion. Salads, where but a small quantity of vinegar is used, are the best conveyors of this condiment. Home-made vinegars are strong with acetic acid and have no virtue over good manufactured vinegars except in flavoring. The apple imparts an agreeable aroma, which makes a pleasant and apparently mild flavor. Grape vinegar, made by adding yeast or "mother" to an uncooked, sweetened grape juice, is excellent, and with a tarragon flavor is one of the best salad seasonings.

The sweet pickle has no advantage over the sour one. Sugar, added to vinegar, makes it pass the palate more easily, but both enter the stomach as they originally were — the sugar as sugar, the vinegar as vinegar. There is no combination or neutralization of either. The perfectly natural palate refuses all very hot, bitter, sour or flat foods. But to meet our artificial cravings we overlook this fact and cover or disguise our likings that they may pass unnoticed. We cannot, however, deceive the stomach, and consequently we pay a heavy penalty.

Seasoned or scented vinegars are made by adding onion, tarragon, bay leaf and celery to plain vinegars; these when used in moderation have dietetic value. One ounce of tarragon added to one quart of vinegar is quite sufficient. One ounce of bruised mint, thoroughly mixed with half a pint of vinegar, slightly sweetened, makes mint sauce for lamb. Onion and garlic vinegar should be made fresh at each using, or they have an unpleasant taste.

The best combinations are meats and green vegetables with vinegar.

Bad combinations with vinegar or severe acids are sugars, spices and starches.

A sour stew of meat is not so bad; a little vinegar with greens is an advantage, but when added to beans to soften the legumin, hinders the digestion of the starch, which is false economy.

To have perfect digestion and good health, with corresponding strength, avoid severe acids, sweets and all unwise combinations. — Woman's Home Companion.

Hints to Housekeepers.

Lining a bureau drawer with paper fitted by folds into the corners is an easy way of preventing the dust from settling in the joinings. On each sweeping day, or at such other times as best suits one's individual convenience, the papers may be renewed.

Try combining cucumbers and leeks in a salad. Cut the leeks in very thin slices and chill both cucumbers and leeks before pouring over them a French dressing. The rule is equal parts, but if a strong onion taste is disliked a smaller quantity of leeks may be used.

A medicine dropper as an adjunct to the making of mayonnaise was the inspiration of a housewife not long ago. Every one who ever tried to make mayonnaise knows the bother of adding oil slowly, drop by drop, until the dressing is thick enough. This woman experienced the same difficulty and met it with the 5-cent medicine dropper, which adds the oil with machine-like regularity and precision.

Peach foam is suggested as a novelty in invalid cookery. It is made by taking half a cupful of powdered sugar, the white of an egg and one cupful of peach pulp. Beat with a silver spoon in a large bowl for thirty minutes, and the result is — or should be—a velvety cream. The same authority gives grape foam, which consists simply of the white of one egg beaten stiff and added to two tablespoonfuls of grape juice. Add a little scraped ice and sprinkle with powdered sugar.

A capital cement for broken china and bric-a-brac that can be made at home is obtained by mixing half an ounce of gum arabic with half a teaspoonful of boiling milk and adding enough paster of paris to produce a creamy paste. To use successfully, have the pieces that are to be mended warm and apply the cement warm with a small brush. Objects repaired with this cement have to be set aside for a week before they can be used, but after that they can be washed in either warm or cold water with safety. Soaking, however, they will not stand.

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Domestic Hints.

Stewed Potatoes.—Peel and cut eight potatoes into long thin slices, and let them simmer gently for fifteen minutes in the following gravy: Into a hot skillet put three ounces of butter, and stir into it two tablespoonfuls of flour, one-half pint of broth and two tablespoonfuls of vinegar. Add salt and pepper to taste, also a bay leaf.

Raspberry Vinegar.—To six quarts of red raspberries add three cupfuls of cider vinegar. Clean the berries, put into a stone jar, mash thoroughly and cover with the vinegar. Let it stand twenty-four hours—two or three days will not hurt—in a cool place, then strain through a jelly bag. Allow a cupful of sugar to each cupful of juice and boil up well. Skim and boil several minutes longer, then put into bottles and seal. To serve, allow one-fourth of a cupful of vinegar to three-fourths of a cupful of water and shaved ice to make quite cold. This is exceedingly refreshing during the hot months and quickly prepared.

Fruit Salad.—Take one quart of mixed fruit juice — red raspberry, strawberry, cherry and pineapple. Heat and stir in two tablespoonfuls of gelatine softened in two tablespoonfuls of cold water; sweeten to suit; add one-half teaspoonful of mixed spices—cinnamon, cloves, mace; one tablespoonful vinegar; pour into small cups lined with pieces of blanched almonds and chill on ice. Unmould on plates, placing lettuce leaves which are dressed with French dressing and two large cherries at one side; on top a teaspoonful of whipped sweet cream; serve this with nut wafers.

Pineapple Snowballs.—Cover one-third of a box of granulated gelatine with cold water and let soak for an hour. When soft, add boiling water to make a little more than a pint, and strain it on a platter. When cool, break into it the whites of three eggs, and beat until it begins to stiffen. Add sugar to sweeten, the juice and rind of one lemon, a pinch of salt, a tablespoonful of vanilla and one cupful of chopped pineapple which has been sweetened and thoroughly scalded in a double boiler and reduced to a pulp through a colander. Beat all together until stiff and foamy, then mould in egg cups and set on ice to harden. Serve in a nest of whipped cream colored pink with strawberry juice.

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The Markets.

San Francisco Produce Report.

San Francisco, August 10, 1904.

CHICAGO WHEAT FUTURES.

Wheat futures in Chicago were as follows for the week named, price being for No. 2 Red per bushel:

	Sept.	Dec.
Wednesday	$ 93⅜@ 95⅜	$ 93½@ 95¼
Thursday	93¾@ 97⅝	93¼@ 97¼
Friday	99⅛@ 96½	98 @ 95⅝
Saturday	96¼@ 97¾	95 @ 96¾
Monday	97½@1 01⅛	96½@1 00¼
Tuesday	1 03 @1 00⅜	1 02⅛@ 99¼

CHICAGO CORN FUTURES.

Prices of futures on No. 2 corn per bushel in Chicago were as follows for the week:

	Sept.	Dec.
Wednesday	53 @51½	49⅜@48¼
Thursday	50⅞@52⅞	47¾@49½
Friday	52⅜@51⅝	49¼@48⅜
Saturday	51½@52¼	48⅛@48⅝
Monday	52⅜@54	48¾@51
Tuesday	55 @53⅛	51¼@49¼

SAN FRANCISCO WHEAT FUTURES.

The range of values in San Francisco for No. 1 White wheat per cental was as follows:

	Dec., 1904.	May, 1905.
Thursday	$1 46 @1 47½	$ ——@——
Friday	1 46⅝@1 44¼	——@——
Saturday	1 45 @1 44½	——@——
Monday	1 47¼@1 46½	——@——
Tuesday	1 46⅛@1 44¾	——@——
Wednesday	1 44¾@1 45	——@——

Wheat.

The local spot market has been in the main firm since last review. Trading was fairly active in the speculative market. Prices for December option rocoded about 3c. from extreme point of preceding week, in sympathy with declines in Chicago futures and no pronounced firmness in the leading European centers, hut there was later a decided recovery in futures. That the speculativo market should rocede is not surprising. It would he phenomenal to have it do otherwise after such an upward move as lately experienced. In the speculative field the fluctuations of prices in times of excitement and activity are almost certain to be to higher or lower levels, as the market happens to be on the up or down grade, than can he suhsequently maintaincd. Natural conditions, such as the anxiety and hasto of operators to huy or sell, frequently send prices higher or lower than are for the time being warranted. If there are no natural conditions to send prices too high or too low for the time, leading operators on the inside will frequently hring about the same results through artificial means, as the greater the fluctuations the hetter the opportunity to make profits off the outsiders who are operating. Actual wheat cannot be purchased freely in the open market without paying an advance on last week's prices. There are dealers anxious to buy round lots for chicken feed at the inside quotation for No. 1 shipping and aro unable to do so.

California Milling	$1 45	@1 55
Cal. No. 1 shipping, alongside	1 35	@1 40
Oregon Club	1 35	@1 40

PRICES OF FUTURES.

During past weck the range on options was:
December, 1904, delivery, $1.44½@1.47½.
May, 1905, delivery, $——@——.
Wednesday, at the forenoon session of Exchange, December, 1904, wheat sold at $1.44¾@1.45; May, 1905, $——@——.

Ocean freights and prices for wheat, as compared with a year ago, are as follows:

	1903-04.	1904-05.
Liv. quotations	6s8d @6s8¼d	-s-d@-s-d
Freight rates	14 @16¾s	22½@—s
Local market	$1 47½@1 50	$1 35@1 40

Flour.

While the market has heen showing a firmer tone, quotahle values remain practically as last noted. That choice grades will soon command more money is altogether prohahle. There is considerahle old flour on the market of rather ordinary quality, and holders are anxious to unload same, accepting in some instances less than cost rather than miss sales.

Superfine, lower grades	$3 15 @3 25
Superfine, good to choice	3 25 @3 50
Country grades, extras	4 00 @4 30
Choice and extra choice	4 30 @4 60
Fancy brands, jobbing	4 50 @4 80
Oregon, Bakers' extra	3 50 @4 00
Washington, Bakers' extra	3 50 @4 15

Barley.

Best grades continue in good request and values for choice to select are heing woll maintained at the current range. For especially desirable lots higher prices are obtainahle than are warranted as regular quotations. There is considerable low-grade barley offering, pinched and foul, and this sort, while selling fairly well, all things considered, is not drawing forth much competitive bidding. In the speculative market No. 1 feed, Dec. delivery, touched $1.10 the past week, hut has since sold down to $1.09¼.

Feed, No. 1 to choice	$1 07½@1 10	
Feed, fair to good	1 03¾@1 06¼	
Brewing, No. 1 to choice	1 10 @1 17½	
Chevalier, No. 1 to choice	1 20 @1 30	
Chevalier, common to fair	1 00 @1 10	

Oats.

Demand for this cereal is of fair proportions, values being maintained at much the same range as for several weeks past. New Reds are in tolerably good supply, hut there are no large stocks in this center of any other description. Black oats suitable for hay seed would sell to good advantage, hut such are ahout impossihle to secure in noteworthy quantity.

White oats, fancy feed, old	$1 35	@1 40
White, good to choice, new	1 30	@1 35
White, poor to fair	1 20	@1 27½
Milling	1 27½@1 32½	
Black oats	1 20	@1 37½
Red, fair to choice	1 20	@1 37½

Corn.

There is very little California corn of any sort on market, and huyers find it necessary to pay tolerahly stiff figures, especially for choice qualities. Eastern corn is in moderate supply, largely mixed Yellow and White, and is heing in the main very steadily held.

Large White, good to choice	$1 47½@1 55	
Large Yellow	1 47½@1 55	
Small Yellow	1 60	@1 65
Egyptian White	1 30	@1 35
Egyptian Brown	1 22½@1 27½	
Eastern, in bulk	1 37½@1 45	

Rye.

Offerings are not heavy, neither is the demand very brisk. Values remain ahout as last quoted.

Good to choice, new	$1 27½@1 32½	

Buckwheat.

In the ahsence of supplies, there is nothing upon which to hase quotations. In the East 2c. per lh. and more is asked.

Beans.

The hean market is not noteworthy for activity, hut values are ruling steady to firm, offerings of most kinds heing light and it heing the exception where any undue selling pressure is heing exerted. As for some time past, firmness continues to be quite pronounced on Limas, which are largely in second hands. Holders of Pinks are making some concessions to effect sales.

Pea, fair to good, 100 lbs	$2 90	@3 15
Small White, good to choice	2 90	@3 15
Large White	2 40	@2 50
Pinks	3 50	@3 65
Bayos, good to choice	2 40	@2 55
Red Kidneys	4 50	@5 00
Reds	4 25	@4 75
Limas, good to choice	3 50	@3 65
Black-eye Beans	2 10	@2 20

Dried Peas.

There have heen free arrivals of Green Peas from the southern part of the State and sales have heen made at a sharp decline. Niles Peas are practically out of stock and values for the same are consequently largely nominal. Choice Garhanzos are scarce.

Green Peas, California	1 85	@2 25
Garbanzos, Large	2 75	@3 00
Garbanzos, Small	2 25	@2 50

Hops.

In hops of 1903 crop thero is not much doing. Stocks of desirahle quality are light and are mostly in second hands. Holders are generally firm in thoir views, quotahle values remaining practically as previously noted. The market for coming crop appears quite strong, as compared with conditions early in the season. Late advices from continental Europe report the crop there much less promising than a month ago. Dealors are bidding 22c for choice new to arrive, with growers genorally disposed to await developments. Hop picking is now in progress in some of the largest yards in the State, and will in a few weeks he general throughout the State. The quality this season on this coast promises to he fully up to or ahove the average. The first hale of new hops arriving at Sacramento sold at 25c. A bale of new was offered at San Francisco at 20c, the quality heing poor.

California, good to choice, 1903 crop	.25	@27½

Wool.

Markot continues to present a very firm tone, with offerings from first hands of exceedingly light volume. Buyers in many sections are endeavoring to contract next year's wool, hut that this is desirahle for either grower or dealer is douhtful. In speculation of this sort the dealer expects much larger profits than ordinarily, and, if successful, the grower loses correspondingly. If the speculative huyor makes a miss in his calculations, he is likely to endeavor to crawl out of his contracts or may collapse, in either event the grower receiving no henefit.

SPRING.

Northern, free	.22	@—
Northern, defective	.17	@20
Middle Counties, free	.18	@21
Middle Counties, defective	.15	@17
Southern, 12 months	.—	@—
Southern, 7 months	.—	@—
Spring Lamb, Northern	.15	@17
Spring Lamb, Southern	.12	@14
Oregon, good to choice	.20	@22
Nevada	.14	@20

Hay and Straw.

Market for hay is without special change, demand continuing of rather light proportions and is mainly for the hest grades, while offerings are largely of common and medium qualities. The competition hetween huyers is almost wholly confined to select stock, and this competition is not very keen. Straw is not in very heavy receipt and is selling in a moderate way to fair advantage.

Wheat, good to choice	$12 00	@ 13 00
Wheat and Oat	8 50	@ 11 00
Tame Oat, fair to choice	8 50	@ 11 00
Wild Oat	7 00	@ 8 50
Barley	7 00	@ 9 00
Alfalfa	9 00	@ 11 00
Compressed	10 00	@ 13 00
Straw, ₱ bale	40	@ 65

Millstuffs.

Bran is in fair supply, hut stocks are principally in few hands. While the market is not firm, quotable values are without pronounced decline. Middlings are being rather steadily held, with spot supplies of only moderate volume. Market for Rolled Barley remains firm at last quoted advance. Milled Corn is higher.

Bran, ₱ ton	$20 50	@ 21 50
Middlings	25 00	@ 28 00
Shorts, Oregon	21 50	@ 22 50
Barley, Rolled	22 50	@ 23 50
Cornmeal	32 00	@ 33 00
Cracked Corn	32 50	@ 33 50
Oilcake Meal	31 50	@ 33 00

Seeds.

There is a fair inquiry for Yellow Mustard and market is moderately firm at current values. Brown Mustard is in too light supply to enable the giving of other than nominal quotations. Very little doing in Alfalfa. Stocks of Flax are light.

	Per ctl.	
Alfalfa, Cal., good to choice	$14 00	@16 00
Flax	1 75	@ 2 35
Mustard, Yellow	3 25	@ 3 50
Mustard, Trieste	3 25	@ 4 50
	Per lh.	
Canary	7	@—
Rape	1¾	@ 2½
Hemp	3½	@—
Timothy	5	@ 5½

Honey.

Market is quiet, and for other than choico to select is not favorahlo to the selling interest. There is not much water-white honey offering, but considerahle of amher grades, and scarcely any inquiry for ordinary qualities.

Extracted, White Liquid	5½@ 6
Extracted, Light Amber	5 @ 5½
Extracted, Amber	4 @ 4½
Extracted, Dark Amber	3½@ 3¾
White Comb, 1-frames	12½@13
Amber Comb	9 @11

Beeswax.

Demand continues good on shipping account and current values are heing well maintained.

Good to choice, light ₱ lb	.28	@30
Dark	.26	@27½

Live Stock and Meats.

Market for Beef is without appreciahle change, offerings boing ample for the immediate demand, which is not particularly active. Small Veal in prime condition is in fair request at current ratos, hut Large Veal is not sought after. There is no scarcity of Mutton or Lamb, market heing easy in tone, and prices for Wethers slightly lower. Hogs desirahle for packing are in fair request and market is steady at the quotations. For Small Hogs there is not much demand.

Allowing for the shrinkage of about 50%, which is exacted in buying cattle on the hoof, live cattle command as much or more per pound than dressed beef, the shrinkage exacted being the slaughterers' profit.

The following quotations for heef and mutton are based on prices realized by slaughterers from wholesale dealers:

Beef, 1st quality, dressed, net ₱ lb	6	@ 6½
Beef, 2nd quality	5	@ 5¾
Beef, 3rd quality	4	@ 5
Mutton—ewes, 6½@7c; wethers	7	@ 7½
Hogs, hard grain, 140 to 200 lbs	4¾@—	
Hogs, large, hard, over 200 pounds	4¾@ 4¾	
Hogs, small, fat	4¼@ 4½	
Veal, large, ₱ lb	5	@ 6
Veal, small, ₱ lb	8	@ 9
Lamb, spring, ₱ lb	9	@ 9½

Hides, Skins and Tallow.

Values for Wet Salted Hides are heing woll maintained at last quoted advance. Dry Hides are in fair request at unchanged figures. Market for Pelts and Tallow is steady.

Bags and Bagging.

Grain Bag market is without improvement, the demand being slow at low figures. In othor hags and bagging there is little doing and no change in quotahle values.

Bean Bags	$	4¾@5
Fruit Sacks, cotton		6¾@6¾
Fruit Sacks, jute, as to quality		5¾@7
Grain Bags, Calcutta, 22x36, spot		5¼@—
Grain Bags, San Quentin, ₱ 100	4 75	@—
Wool Sacks, 4-lb	32	@—
Wool Sacks, 3½-lb	30	@—

Poultry.

Young Chickens in prime to choice condition sold to nearly as good advantage as preceding week. Small and poor stock met with slow sale at a low range of prices. Inquiry for Turkeys was light. Ducks and Geese which were large and fat sold fairly well. Demand for Pigeons was not very active and was mainly for choice Young.

Turkeys, Young, ₱ lb	$ 24	@ 25
Turkeys, live gobblers, ₱ lb	18	@ 20
Turkeys, live hens ₱ lb	18	@ 20
Hens, California, ₱ dozen	4 50	@ 5 00
Hens, large	5 00	@ 6 00
Roosters, old	4 00	@ 4 50
Roosters, young (full-grown)	6 00	@ 6 50
Fryers	4 00	@ 4 50
Broilers, large	2 75	@ 3 00
Broilers, small to medium	2 00	@ 2 50
Ducks, large, old, ₱ dozen	4 50	@ 5 00
Ducks, large, young, ₱ dozen	5 00	@ 5 50
Ducks, small, ₱ doz	3 00	@ 3 50
Geese, ₱ pair	1 50	@ 1 75
Goslings, ₱ pair	1 75	@ 2 00
Pigeons, old, ₱ dozen	1 25	@ ——
Pigeons, young	1 50	@ 1 75

Butter.

Market is higher for desirahle grades of fresh, and moderately firm at the advanced figures, espccially for most favorite marks of creamery. Considerable cube hutter, California and Eastern, is heing cut into squares.

Creamery, extras, ₱ lb	25	@26
Creamery, firsts	24	@25
Creamery, seconds	22	@23
Dairy, select	24	@—
Dairy, firsts	23	@—
Dairy, seconds	19	@21
Mixed Store	13½	@14

Cheese.

For desirahle qualities of flats there is a fair demand at full current figures, with stocks only moderate. Young Americas continue to he offered sparingly and are meeting with a rather firm market.

California, fancy flat, new	9¼	@10
California, good to choice	9	@ 9¼
California, fair to good	8¼	@ 9
California, "Young Americas"	10	@11
Eastern	10	@13

Eggs.

Tendency of the market for strictly choice to select is to more firmness, with prospects of higher values heing established in the near future. Common qualities are in tolerably heavy supply and for these the market is slow and lacking in firmness. Most buyers take Eastern in preference to common domestic.

California, select, large, white and fresh	26	@27
California, select, irregular color & size	23½	@24
California, good to choice store	19	@21
Eastern firsts	20	@22
Eastern seconds	17	@19

Vegetables.

Asparagus was on market in limited quantity and sold at a wide range, as to quality, No. 1 commanding 6@7c. per lh.; while common was obtainable at 1½@2c. String Beans were in liberal supply and market favored huyers, especially for other than most select; some of common quality went at 50c. per sack. Tomatoes were in less excessive receipt than previous week, hut prices remained at a low range. Green Corn was in good supply, as were also Green Peppers and Cucumhers. Yellow Onions were in increased receipt and market declined ahout 25c. per cental.

Beans, Lima, ₱ lb	2½@	3½
Beans, String, ₱ lb	1 @	2
Beans, Wax, ₱ lb	1½@	3
Cahbage, choice garden, ₱ 100 lbs	1 00 @	1 25
Corn, Green, ₱ cratc	75 @	1 50
Cucumbers, ₱ large box	25 @	50
Egg Plant, ₱ box	40 @	60
Garlic, new, ₱ lb	3 @	4
Okra, Green, ₱ box	50 @	65
Onions, Yellow Danver, ₱ ctl	1 10 @	1 30
Peas, sweet garden, ₱ lb	2½@	3½
Peppers, Green, ₱ box	30 @	65
Summer Squash, ₱ box	25 @	50
Tomatoes, River, box	25 @	50
Tomatoes, Bay, ₱ box	60 @	75

NOTE.—Large boxes are what are known to the trade as "pay boxes," which have to he returned or paid for. They are open top, with hand holes in the ends, and weigh when filled from 50@60 lbs gross. Small boxes are free hoxes, about the same as the regular fruit box, weighing when full from 20 to 30 lbs. gross.

Potatoes.

Under increased offerings and slow demand the market has ruled weak and lower, especially for ordinary qualities. Sweets were in limited receipt and sold at much the same wide range of prices as preceding week.

Salinas Burbanks, ₱ cental	1 50	@ 1 65
Potatoes, white, ₱ cental	75	@ 1 15
Early Rose, ₱ cental	75	@ 1 10
Garnet Chile	90	@ 1 10
Sweet Potatoes, ₱ lb	3	@ 6

Fresh Fruits.

There is a fairly active demand for desirable qualities of nearly all kinds of midsummer fruits, especially for stock suitable for shipment. Apricots are practically out of season and are no longer quotable in a regular way, although a few are still arriving, and of good to choice quality aro selling at much the same figures as had heen ruling. Apples of high grade were not in heavy supply and met with a generally firm market, although common sorts moved slowly and at tho same low range of prices as current for some weeks past. Bartlett Pears were in decroased receipt, and for choice to select desirable for shipment the market showed more firmness, although for stock in hulk, having to depend on canners for custom, prices were in the main not so good as last quoted. Canners wero running largely on contract stock and were in a great moasure independent of the open market. Choice freestone Peaches were not in heavy supply, and met as a rule with prompt sale, some especially desirable commanding ahove quotations. Clingstone Peaches were in too light stock to afford quotations for stock in bulk. Choice in round lots could have heen readily placed at good figures. Plums were in fair supply and for good to choico of favorito varietics the market was tolerahly steady. Grapes were in increased supply and for the general run of offerings the market was easy in tone. Melons were plentiful and prices favored the consumer. Market for most kinds of herries inclined to firmness, Blackberries being the only noteworthy exception, this variety heing in good supply.

Apples, Gravenstein, ₱ 50-box	1 00 @	1 25
Apples, good to choice, 50-lb. hx	75 @	1 00
Blackherries, ₱ chest	2 00 @	4 00
Cantaloupes, & crate	75 @	1 50
Crabappies, ₱ large box	75 @	1 00
Grapes, Black, ₱ crate	40 @	75

Grapes, Muscat, ₱ crate	75	@	1 00
Grapes, Seedless, ₱ crate	50	@	75
Huckleberries, ₱ lb	8	@	10
Nectarines, Red, ₱ box	75	@	1 00
Nectarines, White, ₱ box	50	@	75
Nutmeg Melons, ₱ box	35	@	60
Peaches, freestone, ₱ pay box	65	@	1 25
Peaches, freestone, ₱ free box	40	@	65
Peaches, Clingstone, ₱ free box	60	@	90
Pears, No. 1 Bartlett, ₱ 40-lb box	90	@	1 15
Pears, Bartlett, No. 2, ₱ box	35	@	50
Pears, Bartlett, No. 1, ₱ ton	25 00	@	30 00
Pears, other varieties, small box	30	@	60
Plums, Large, ₱ box	40	@	75
Plums, in bulk, ₱ ton	15 00	@	25 00
Prunes, Tragedy, ₱ box	40	@	65
Raspberries, ₱ chest	6 00	@	12 00
Strawberries, Longworth, ₱ chest	4 00	@	7 00
Strawberries, large, ₱ chest	2 50	@	6 00
Watermelons, ₱ doz	60	@	2 50

Dried Fruits.

While business in cured and evaporated fruits is not active in this center, the reason therefor is plain. Little opportunity is given offerings of most kinds to come here. Dealers are, through their interior agents and representatives, buying freely in the country. Market for most kinds of dried fruits is showing very healthy condition, with a firm tone. Apples are in light stock, old being nearly out, and it being too early for new to put in an appearance in great quantity, especially of desirable quality. Interior advices report free purchases of Apricots, and in most cases at figures so favorable to the producer that buyers do not care to have them quoted. For high grade Apricots the market is strong at current quotations. Peaches are not lacking for inquiry, and it is a very ordinary quality that will not command 6c. in a wholesale way, while strictly fancy are quoted up to 8½c. Little has been yet done in Pears, but that fancy halves will command up to 10c. there is no doubt. Prices for Prunes continue low, the market not being quotable over the 2c. bag basis for Santa Claras. Some dealers are said to be slightly shading this figure. The steamer Umatilla, sailing the past week for British Columbia, carried 51,420 lbs. dried fruit, including 20,125 lbs. Prunes, 12,625 lbs. Peaches, 12,500 lbs. Apricots and 2,000 lbs. Plums. The steamer Queen, clearing Monday for British Columbia, carried 26,225 lbs. dried fruit, including 10,500 lbs. Prunes. Of this shipment 5,000 lbs. Prunes and 1,200 lbs. other dried fruit were billed for Dawson.

EVAPORATED OR BLEACHED.

Apples, 50-lb boxes, rings, pressed, good to choice	5¾@ 6¼
Apples, extra choice to fancy, 50-lb boxes	6½@ 7½
Apricots, Moorpark	8 @11
Apricots, Royal, good to choice, ₱ lb	7 @ 8
Apricots, Royal, fancy	9 @10
Figs, 10-lb box, 1-lb cartons	50 @65
Nectarines, Red, ₱ lb	5 @—
Nectarines, White and Yellow	5½@ 6
Peaches, unpeeled, good to choice	5¾@ 6½
Peaches, unpeeled, fancy to extra fancy	7 @ 8
Pears, standard, ₱ lb	5½@ 6
Pears, choice to fancy	7 @10
Pears, extra fancy	10 @11
Plums, Black, pitted	4½@ 5½
Plums, Yellow, pitted	6 @ 7
Prunes, Silver, good to fancy	3 @ 5
Prunes, in bags, 4 sizes, 1¾@2c; 40-50s, 3½@3¾c; 50-60s, 3@3¼c; 60-70s, 2½@2¾c; 70-80s, 2@2¼c; 80-90s, 1⅝@1⅞c; 90-100s, 1⅛@1⅜c; small, ⅝@1c.	

COMMON SUN-DRIED.

Apples, sliced	3½@ 4½
Apples, quartered	3½@ 4½
Figs, White, in bulk	3 @ 3½
Figs, Black	2½@ 4

Raisins.

The same absence of firmness previously noted continues to prevail in the Raisin market. Following quotations are based on selling prices for this year's crop at packing points, October delivery.

Following are current quotations for raisins as announced by the Growers' Association of Fresno for crop of 1903, f. o. b. at Fresno, subject to change without notice:

Standard Grades—	50-lb. cases, Per lb.
2-Crown Loose Muscatels	2¾c
3-Crown Loose Muscatels	3¼c
4-Crown Loose Muscatels	4 c
Seedless Loose Muscatels	2½c
Seedless Sultanas, Unbleached	3½c
Seedless Thompson's, Unbleached	4½c

SEEDED.

Fancy 16-oz. Cartons, ₱ lb	5½c
Fancy 12-oz. Cartons, ₱ pkg	4½c
Fancy Bulk Cartons, ₱ lb	5 c
Choice, 16-oz. Cartons, ₱ lb	4¾c
Choice, 12-oz. Cartons, ₱ pkg	3¾c
Choice, Bulk Cartons, ₱ lb	4½c

Citrus Fruits.

Market is quiet throughout. The Orange season is nearly ended. Lemons are in fair supply and are selling at quotably unchanged figures, with movement not very brisk. Limes are offering at unchanged rates.

Oranges, Valencias, ₱ box	1 50	@2 75
Lemons, California, select, ₱ box	2 50	@—
Lemons, California, good to choice	1 75	@2 25
Lemons, California, fair to good	1 25	@1 75
Grape Fruit, ₱ box	1 25	@2 50
Limes, Mexican, ₱ box	4 00	@4 50

Nuts.

The Almond market is strong, with demand good. Prices for new crop to arrive may be said to range from 9@9½c. for Languedocs up to 13½@14c. for Nonpareils. No Walnuts here. New Chile Walnuts are quoted in New York at 8¾@9¼c.

California Almonds, shelled	18 @21
California Almonds, paper shell	12½@14
California Almonds, soft shell	9½@12
California Almonds, hard shell	6 @ 7
Peanuts, fair to prime	4½@ 5½

Wine.

The general tone of the wine market and quotable values are without appreciable change. For dry wines of 1903 vintage the wholesale range is 15@17c per gallon, San Francisco delivery. Dry wine grapes this season will probably range from $12@17 per ton, as to kind, quality and section. Some grapes are said to be rather badly mildewed, and others promise to yield only a light percentage of sugar. Sweet wines of last vintage are held at 30c per gallon, delivered at wineries. Receipts of wine at San Francisco last week were 256,175 gallons, and for preceding week were 266,105 gallons. The steamer City of Sydney, sailing August 6th, carried 63,050 gallons and 52 cases, including 59,620 gallons for New York.

Produce Receipts.

Receipts and exports of leading cereals and other California products for the past week and for the season to date, as compared with the corresponding time the previous year, are as follows:

FOR THE WEEK.		Since July 1, 1904.	Same time last year.
Flour, ¼ sks	62,667	484,599	531,258
Wheat, ctls	79,912	142,115	180,012
Barley, ctls	73,102	257,911	505,051
Oats, ctls	23,184	82,157	98,172
Corn, ctls	2,475	8,409	7,400
Rye, ctls	1,297	6,067	6,890
Beans, sks	3,740	13,778	10,442
Potatoes, sks	18,598	102,025	111,992
Onions, sks	2,339	12,547	17,009
Hay, tons	4,387	23,769	25,853
Wool, bales	690	5,875	5,826
Hops, bales	141	217	858

EXPORTS BY SEA.

FOR THE WEEK.		Since July 1, 1904.	Same time last year.
Flour, ¼ sk	141,976	402,080	260,416
Wheat, ctls	474	13,608	45,868
Barley, ctls	10,450	93,566	277,576
Oats, ctls	588	1,699	2,781
Corn, ctls	209	1,063	2,317
Beans, sks	691	2,600	2,147
Hay, bales	2,092	14,938	19,310
Wool, lbs	249,738	475,715	761,337
Hops, lbs	1,625	4,955	21,295
Honey, cases	14	85	50
Potatoes, pkgs	596	7,867	9,305

The Commercial Outlook of California.

From an address by W. M. BUNKER, at the last quarterly meeting of the San Francisco Chamber of Commerce.

The United States Government sees the significance of territorial expansion. As a corollary the Government is learning the national importance of the Pacific coast. The two facts are complementary. For years the national authorities based commercial calculations on the commerce of the Eastern coast. American export trade was in the early stages of its formative period and mainly dealt with Europe. We of the Pacific chafed at delayed recognition. We now see that this delay was inevitable. The commercial conquest of Europe held the right of way.

EXPANSION MEANS PACIFIC COAST GROWTH.—For reasons appealing to rational men, the Government must encourage Pacific ocean trade. This is not a Pacific coast equity; it is a national necessity. The new trade bonanza of the world is the rim of the Pacific. The other great nations are officially working this rim. To date this nation, as a nation, has slept on its advantages. In 1866 the area of United States territory was 3,025,600 square miles. Since then the area has grown to 3,770,954 square miles. All save 3600 of the 745,354 square miles of increase represents Alaska, the Hawaiian Islands, the Samoan Islands, the Philippines and Guam. The only expansion in the Atlantic region is the 3600 miles of Porto Rico. We face the fact that 741,754 of the 745,354 square miles of territorial expansion since 1866 represents Pacific coast and Pacific island area. This expansion is a factor in the harmonious development of the country. Nowadays the national authorities meet it at every turn. There is no evading it. The population of the United States in 1870 was 38,558,371. To-day it is over 80,000,000. The net ordinary expenditures of the country in 1870 amounted to $164,421,507, and in 1903 were $477,542,658. The rapid growth of the country on these and other lines passed the assimilative capacity of the nation. Hence the absence of harmonious development. Hence official delays that are too often mistaken for national neglect. The Government now sees that this coast is the natural and only American base for the Asiatic trade, and, so seeing, it is doing its duty in a sane and systematic way. Signs of this national recognition are seen on every hand. The placing of a naval coaling station at California City, on San Francisco bay, is one sign. Another is the creation in this city of a permanent warehouse for Indian supplies. And still another is the transfer of the Department of Commerce and Labor to Hon. Victor H. Metcalf of the California Congressional delegation. The appointment of Mr. Metcalf is more than a tribute to the great personal worth of the man; it shows Pacific coast supremacy in commercial affairs; it is an admission of Pacific coast progress; it is a national advertisement of California.

SAN FRANCISCO IS THE NATURAL TRADE BASE.—The Chamber of Commerce and all other active agencies in the State are concerned for the commerce of the Pacific, for the trade of the Far East, for the use of San Francisco, the great commercial city of the Pacific, as the Asiatic trade base. The present and prospective activity on the rim of the Pacific is tempting. Hence the Trans-Siberian Railway, the railway survey across the narrowest part of Canada for an all-British route to the Far East, and finally the war between Russia and Japan. The stake in peace and in war is the Asiatic trade, and especially the certain increased trade of China, not forgetting that the population of China is 473,000,000, as against the 472,000,000 of Europe. Russia is fighting for trade and territory in China; Japan is fighting for trade advantages and official prestige in the Far East, and Great Britain is creating a shorter and more direct route from the British Isles to Asia.

In order to protect American trade interests in the Far East, the Government must utilize the geographic advantages of the Pacific coast. Coast developments are therefore of paramount importance, not merely because they affect coast interests, but for the broader reason that every section of the country is first or last affected by Asiatic trade.

THE UNITED STATES LAGS IN CHINESE TRADE.—While the growth of the United States has made the world giddy, and while we plume ourselves on the fact that we led the countries of the world with our domestic product exports of $1,457,000,000 in 1903, we regretfully recall that less than 10% of the American foreign trade is in American bottoms. Another displeasing recollection is our position in the Chinese trade. In 1902 Japan sent 7000 vessels to China, Germany 6046 vessels—an increase of her tonnage from 1,000,000 to 7,000,000 since 1897. Fifty per cent of the foreign tonnage of Chinese ports was British. The share of the United States was approximately 1%. In 1902 the United States exports to China were valued at $19,000,000. In the same year Japan sent goods to China to the value of $22,265,000. The immense business of Japan is partly due to increased shipping facilities. The mercantile tonnage of Japan increased from 214,000 tons in 1892 to 934.000 tons in 1902. American shipping contrasts pitifully with American export trade. The time for relief has arrived. However ends the war between Russia and Japan, we know from experience that trade activity will follow peace. In time of war prepare for peace. Now is our golden opportunity. The Government should pursue a broad and liberal policy with a view to expanding the Asiatic and Philippine trade. The signs point to the pursuance of such a policy. The Government has just created a permanent Indian warehouse in this city, to meet the needs of tributary territory; the Government has acquired a new coaling station at California City; the Government has matured and will undoubtedly carry out a plan for building an immigrant station on the shore of the bay at a cost of $250,000, and there are reasons for assuming that in the interest of economy, protection and progress the Government will build a military depot and transport docks at or near Black Point, and that in other ways the national trade necessities, the responsibilities of expansion and the business importance of the city will be officially acknowledged. You, gentlemen, are doing your share in the upbuilding of trade and commerce, and San Franciscans generally, building to the extent of $14,984,514 in 1903 and still building in the same ratio, are doing their share. In equity the Government should do its share. But equity is not invoked as a factor in this case. Necessity is the word. In the interest of American trade in the Pacific, in the interest of our island possessions, and especially in the interest of Asiatic trade, the Government is in duty bound to promote the use of San Francisco as the great American trade base of to-day. This city is financially and geographically the starting point for the greatest trade conquest of modern times.

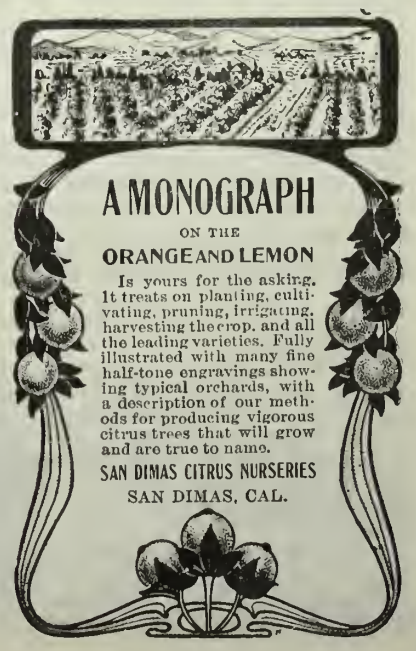
New Patents.

DEWEY, STRONG & CO.'S SCIENTIFIC PRESS PATENT AGENCY, 330 Market St., S. F., has official reports of the following U. S. patents issued to Pacific coast inventors:

FOR WEEK ENDING JULY 26, 1904.

765,657. — PNEUMATIC FEEDER — T. J. Amault, Everett, Wash.
766,095.—MAIL BOX—J. A. Barclay, Ballena, Cal.
765,914.—EYEGLASS SUPPORT—W. S. Boyd, 3rd, Los Angeles, Cal.
765,813.—CAR FENDER—F. E. Caton, San Jose, Cal.
765,882.—RAIL JOINT BRIDGE—C. W. Coburn, S. F.
765,817.—SUPPORTING DEVICE—A. M. Cox, Los Angeles, Cal.
766,023.—BOTTLE—D. W. Divine, Highlands, Cal.
766,026.—APPAREL HANGER—Carrie Easton, S. F.
766,034.—PLOW COLTER—J. B. Hamilton, Requa, Cal.
765,777.—ROTARY MOTOR—J. F. Hathaway, S. F.
765,894.—HAIR DRIER—S. Hudson, Los Angeles, Cal.
766,049.—VIOLIN—J. D. Loppentein, Orange, Cal.
765,784.—NAPKIN HOLDER—D. G. McClay, Santa Ana, Cal.
765,851.—LAUNDRY TONGS—S. R. Nettleton, Kirkland, Wash.
765,905.—LEGGING—M. Rose, S. F.
765,797.—RAILWAY—A. J. Smithson, Portland, Or.
765,800.—FAUCET CUTTER—F. Stansfield, Los Angeles, Cal.
766,072. — GAME TABLE — N. B. Stone, Outlook, Wash.

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FORESTRY.

Australian Big Trees Not So Big.

Last June we printed a comment by Mr. John Muir, who then returned from his trip around the world, that the big trees of Australia were not so tall as reported. Mr. J. H. Maiden discusses the same subject in the Sydney Herald and sets forth many interesting facts:

Current Reports.—A great many tales about Australia vegetation have, from time to time, become current only to become demolished as the continent became better known. But there is one phase of the subject that is of real scientific interest—I allude to the size of our trees, and in regard to these we have much to learn.

It is very difficult for some people to understand that in a question of this kind only actual measurement by tape or theodolite or records by an observer of proved accuracy can be admitted. The mere guessing of heights is rarely attended with even approximation to accuracy. I have been given the most astounding heights for certain trees and when I have asked for evidence I have sometimes given offense.

The greatest claims for Australian trees have been made on behalf of Victoria, most of them from Gippsland. In 1862 Mueller wrote to Seamann's Journal of Botany that D. Boyle of Nunawading, near Melbourne, had measured a fallen tree in the recesses of the Dandenong and found it to be 420 feet. About the same time he wrote to the Australasian, giving more details about this tree, which was stated to be 392 feet long. He added 30 feet as a fair estimate of the length of the top, which had been broken off, and thus we have 420 feet as the height of this tree.

Two Enormous Trees.—Henniker Heaton says that on the Black Spur were two trees, one alive, measuring 420 feet in length, and the other (prostrated) 480 feet long. He adds that Baron Mueller is the authority for these measurements. One version, therefore, states that the 420-foot tree is prostrate and the other that it is alive. If these two statements are correct then two trees of this stupendous height are referred to. Following is another account of the 480-foot tree: A note by Mueller in the Gardeners' Chroniele for 1862 says that several trees had been recently measured at the upper Yarra and on the Dandenong. He adds:

"The highest known is ascertained to be 480 feet, and therefore as high as the great pyramid." The same writer in Seamann's Journal of Botany says that it was a Mr. Klein who measured a tree on the Black Spur, 10 miles from Healsville, who found it to be 480 feet high. Mueller, in his "Select Extra Tropical Plants," writes that a tree was measured in the Cape Otway range 415 feet high and 15 feet in diameter.

Another tree measured at the base of the stem 69 feet in circumference; at 12 feet from the ground, 14 feet in diameter; at 78 feet, 9 feet; at 144 feet, 8 feet, and at 210 feet, 5 feet. All these trees belong to the species described by Mueller as the eucalyptus regnans, on account of its crowning height. It is the tree known in Victoria variously as "white gum," "messmate" and "peppermint" (it varies much in the bark), and Mueller alludes to it as the "tallest tree on the globe, surpassing even the renowned California sequoia and Wellington pines in height, reaching to 400 feet and even more."

On another occasion he continues to limit the height to about 400 feet. "In our sheltered springy forest glens attaining not rarely a height of over 400 feet." In 1862 he, in Seamann's Journal of Botany, said that E. B. Heyne measured a tree at the Dandenong 295 feet to first branch; diameter at first branch, 4 feet; to the point where broken off, 70 feet; total, 365. Diameter at fracture, 3 feet; girth of stem 3 feet from ground, 41 feet. Although not up to the 400-foot standard, this is a very big tree, and I am sorry that we have not evidence which would warrant our accepting it. In fact, those old records are simply unreliable, in spite of their apparent attention to details.

We will go a step higher. In 1889 F. Sanley Dobson of Melbourne quoted Mueller as having written in his "Botanic Teachings" that our gum trees attain a height of 500 feet. I cannot trace this particular reference, but I have other references of such a height to which Mueller gave currency. For example, in Seamann's Journal of Botany he says that George W. Robinson, in the back ranges of Berwick, found a tree 81 feet in girth 4 feet from the ground, and supposes that toward the sources of the Yarra and Latrobe rivers it attains 500 feet.

Another contemporary account says that W. G. Robinson of Berwick, Victoria, in a journey from Gippsland to Mount Baw Baw, saw and measured a tree 500 feet high. Later, in an edition of the "Select Extra Tropical Plants," the name of the finder and the heights are varied. "G. W. Robertson, surveyor, measured a tree at the foot of Mount Baw Baw 471 feet high."

Tallest of Them All.—But we have not reached the high-water mark yet David Boyle, who for twenty-seven years had been identified with big trees, in 1889 wrote to the Melbourne Argus, giving 525 feet as the height of a tree known to him some years previously. As this was considered rather "tall," and is, I believe, the greatest height in or out of Australia claimed for a tree, Mr. Boyle replied to inquirers: "I determined to have it photographed and measured, ten years having elapsed since I measured it before. * * * I found it. The tree was healthy, the only change in it since I saw it last being that a portion of the top was blown away. The measurement now is 466 feet high, and its circumference 4 feet from the ground, 81 feet; base, 114 feet."

Visitors to the Melbourne international exhibition in 1888 will remember the photographs of a large butted gum tree by N. J. Caire, photographer, who declared that he had once come across this monster in Gippsland and that its height was 464 feet. He called it "The Baron," after Von Mueller. Here was something definite to go upon.

The Fact.—The trustees of the public library of Melbourne voted $500, the trustees of the exhibition building another $500, the minister for lands promised a sum not exceeding $4000 to have this leviathan measured and photographed. After some hesitancy on the part of the photographer the identical tree photographed was found. The inspector of forests and a government surveyor measured it accurately and found it to be 219 feet 9 inches. Here was a come down. "No tree in the neighborhood reached 300 feet." The tree, of which a specific measurement was given, was found on actual measurement to be less than half its reputed height.

James Munro, premier of Victoria, thereupon offered a reward of $500 out of his own pocket for any Victorian tree 400 feet in height, and the reward has remained unclaimed to this day.

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THE FIELD.

Melon Growing in Coachella.

Certainly no portion of the desert has been reclaimed more speedily than has Coachella, says a correspondent of the Los Angeles Herald. In less than four years this little settlement has increased in population from 2 or 3 families to nearly 300 inhabitants, exclusive of Mexicans; in tilled land from a few meager fields to an area of more than 1000 acres; in water supply from a solitary well to more than 200 wells of purest artesian water.

Melons is the main crop under cultivation, 600 acres being planted to cantaloupes and 200 to watermelons, both varieties maturing six weeks earlier than in any other melon growing section. Only one variety of each melon is grown, the Chilean watermelon and the Rocky Ford cantaloupe, the seed of which cost $1.50 a pound, while common seed costs but 20 cents. In both cases results have demonstrated the wisdom of the selection.

Melons require an immense amount of water during the ripening period, a thorough irrigation being necessary every four or five days. As every grower has his own flowing well, the process is less expensive than laborious.

Cantaloupe shipments began May 21 this year, and the first carload lot went out June 7. This first car brought $2208 in the Chicago market and netted the growers $1400. June 29 the first special trainload of cantaloupes ever shipped from the Pacific coast left Coachella at 4:45 P. M. Five refrigerated cars with huge banners on either side bearing the inscription, "Coachella Cantaloupe Special," pulled out on passenger time, an hour ahead of the overland, and are scheduled to reach Chicago in four days.

To June 30 seventy-two cars had been shipped, forty-six cars to Chicago and twenty-six cars to western and northern points. Two large packing houses, conveniently arranged, furnish adequate facilities for packing and from fifteen to twenty men are employed in the height of the season. Melons are brought in only very early in the morning or late in the afternoon, and most of the packing and loading into the refrigerated cars is done at night.

Crates of two sizes are used, the "pony" crate holding fifty-four melons and weighing sixty-five pounds, and the standard crate holding fifty-four melons and weighing seventy-five pounds. A carload is 360 crates. All melons designed for Pacific coast buyers are wrapped in tissue paper, while those shipped to the Eastern markets go unwrapped by request of the buyers. The organization through which the packing and shipping is done is the Coachella Valley Producers' Association, composed of eighty-five growers, with J. L. Rector as secretary and manager. H. Woods of Chicago is selling agent for the association and handles the entire output which is marketed in the East.

Last year the Coachella growers netted $33,826.20 for their crop, or $1.54 a crate. This year there are 560 acres more planted than last season, prices are higher and there has been less damage from burning. The estimate on this season's output is 150 cars of cantaloupes and forty-five cars of watermelons.

While melons are the main product of the valley, all deciduous fruits grow rapidly and mature early. The first crop of figs has already been marketed and more than 800 crates of Thompson's seedless grapes have been sent out. Asparagus and sweet potatoes are also produced in abundance and of excellent quality.

Experiments in date culture are now being made through the Government experiment station located there. Last year the only two female date palms in the valley were pollenized and the first crop from one of the trees was eighty pounds. This year it is expected that the same tree will produce nearly 100 pounds. The fruit matures late in September, is large and firm and surpasses in quality the date from Algeria.

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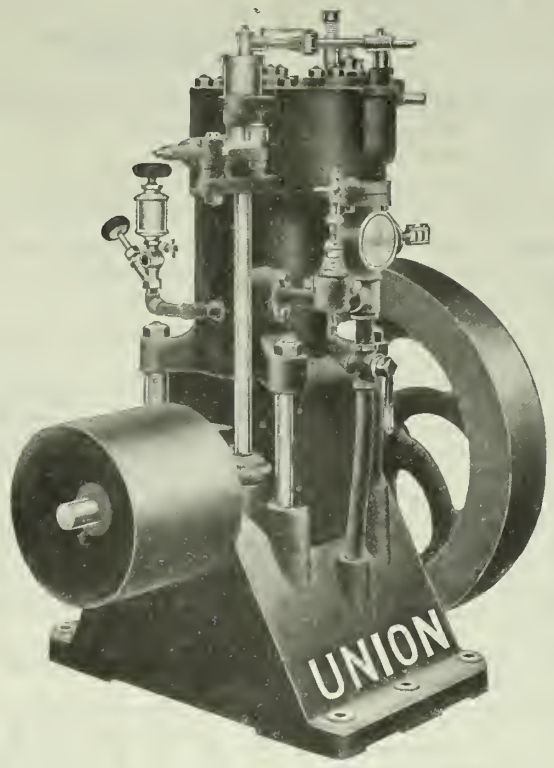
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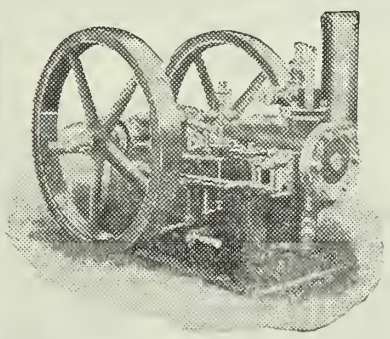
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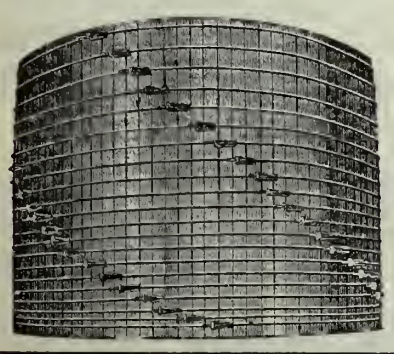


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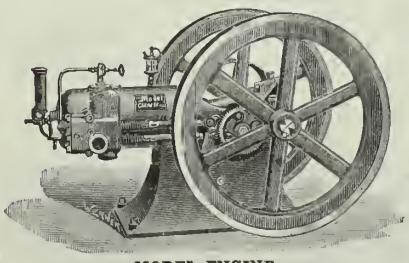
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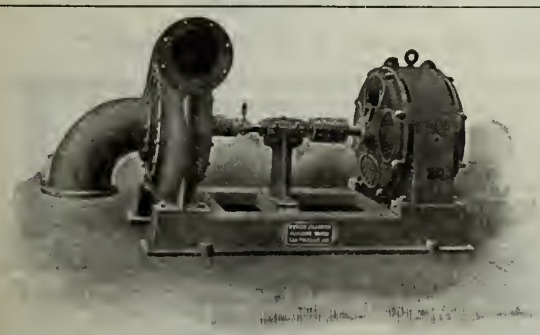
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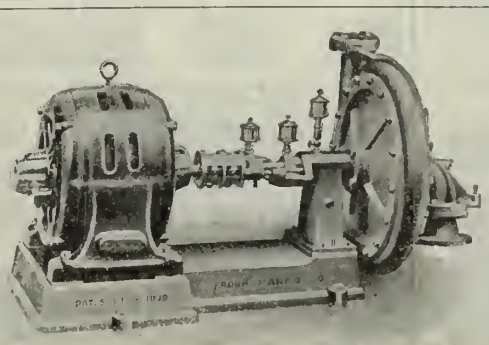
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What Governor Pardee Says About the World's Fair.

In an interview with a reporter of the Sacramento Union, Governor Pardee, who has just returned from the East, says:

"The California exhibit is very satisfactory, and easily overshadowed that of every other State. It seemed that the greatest exhibit was corn, and there was lots of it to be seen. But California has corn and almost everything else that one could think of.

"The fruit exhibit of the San Joaquin and Sacramento valleys is very meritorious, and fully equals that of the southern portions of the State. The forestry exhibit fully equals that of other States, although some have more material; still the huge sugar pine planks, etc., the polished pieces of laurel, redwood, etc, make a splendid showing, and even surprised many Californians who visited the fair.

"By the way, the people of this coast are patronizing the fair better than the people of many of the Eastern States, as up to the time that I left St. Louis over 100,000 California badges had been issued to people from the State. The mineral exhibit of this State is excellent, and, in fact, the entire exhibit is a grand advertisement for the State at large.

"I discovered that there was a dense ignorance existing throughout the East about the northern portion of the State. Why, I found people who thought that the winters in the north were very severe, and that all kinds of fruit and flowers were killed by their severity. The fair is doing a great work, but the representatives of the north should immediately take steps to advertise their advantages.

"In my opinion the most effective method of drawing attention to these great valleys and their products would be to establish exhibits in the larger cities, distribute suitable literature, erect a good hotel and get people to come here.

"I found that all of the foreign Governments have representatives at the fair, who closely examine all of the exhibits and take extensive notes of the products of every section of the United States, and in this way California is being well advertised across the ocean in the Old World, for, as I said before, our exhibit is by far the best."

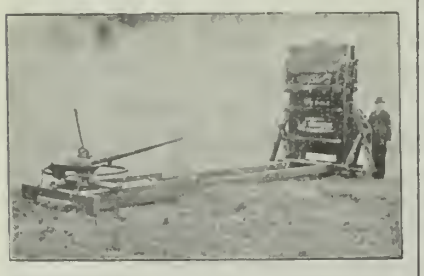
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III.	The Fruit Soils of California.	XXIII.	The Quince.
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Farmers' Two-Days Summer School at Pacific Grove.

To the Editor:—Most of your readers know something of the delights of Pacific Grove, Moss Beach, Lovers' Point, the old Missions, etc. There will be on Aug. 17th and 18th an opportunity to enjoy these and to "get wisdom" at a Farmers' Institute held by the University of California in addition. An interesting programme has been arranged as follows:

August 17th—2:30 p.m., "The Farmer the Foundation of Commerce," Prof. D. T. Fowler; 3 p. m., "Dairy Herds and Cows," Mrs. M. E. Sherman; 3:30 p. m., "Insects, Injurious and Beneficial," Prof. W. T. Clarke; 4 p. m., "Milk, and the Microbes that Flavor its Products," Dr. Haring; 4:30 p. m., Discussion; 8 p. m., Song, "My Own United States," Prof. Henri Fairweather; 8:10 p. m., "Agricultural Education," Prof. J. P. Roberts; 8:40 p. m., "Spraying for Plant Diseases," Prof. W. T. Clarke; Discussion.

August 18th—2:30 p. m., "The Codlin Moth," Prof. W. T. Clarke; 3 p. m., "Table and Raisin Grapes," Mrs. M. E. Sherman; 3:30 p. m., "Character Building," Prof. Roberts; 4 p. m., "Bacteria, in Health and Disease," Dr. Haring; 8 p. m., Music, Prof. H. Fairweather; 8:10 p. m., "The Farmer and His Taxes," Prof. D. T. Fowler; 8:40 p. m., "The Citizen and His Postoffice," Edward Berwick; 9:10 p. m., "Preservation and Renewal of Plant Food in California Soils," Prof. W. T. Clarke; 9:40 p. m., Discussion.

Farmers' Institutes have so many appreciative friends in Monterey county that I make this announcement hoping they will give themselves a few days vacation, and imbibe health and wisdom in a seaside sojourn.

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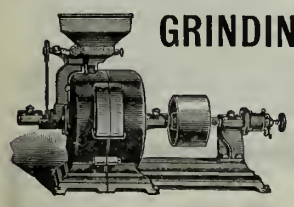
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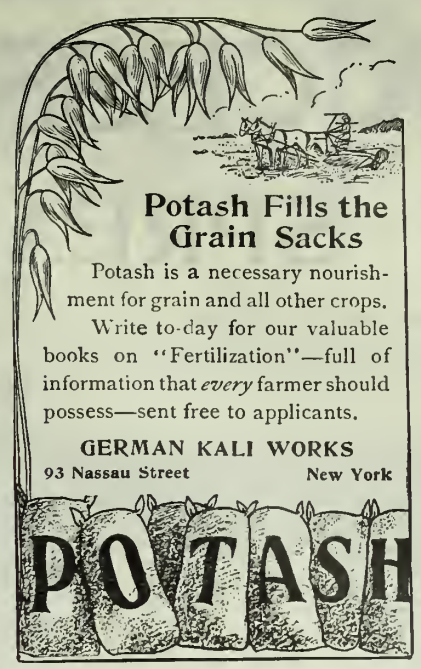
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Bright's Disease and Diabetes News.

San Francisco, Jan. 16, 1904.

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Some of you have loved ones stricken with Bright's Disease or Diabetes. Let me give you hope. I can speak because I know. I was stricken with Diabetes myself. Only Diabetics can understand the tortures—the hopelessness. I went to the Women's Hospital (one of our best). They told me I was incurable. I grew worse (sugar was 11 per cent) and went to the Cooper Medical College for examination. Same verdict — incurable. Thoroughly discouraged I went home to die. A Mrs. Clark then living at 1013 Larkin street called to tell me there was a cure and where to get it. The third week the dreadful thirst diminished. I began to sleep better and in a year I was perfectly well.

I have a large boarding house on the corner of Powell and Sutter. One of the boarders is Wm. White, formerly Deputy City Assessor. He had to give up his position due to Bright's Disease—had been in both St. Luke's Hospital and the Waldeck Sanitarium without result when I learned what the trouble was and told him he could get well. He was swollen with dropsy, albumen was heavy, heart was involved and he felt sure he could not recover. In a month he began to mend and is now perfectly well. To the women of America I want to say that Chronic Bright's Disease and Diabetes are positively curable. Sincerely,

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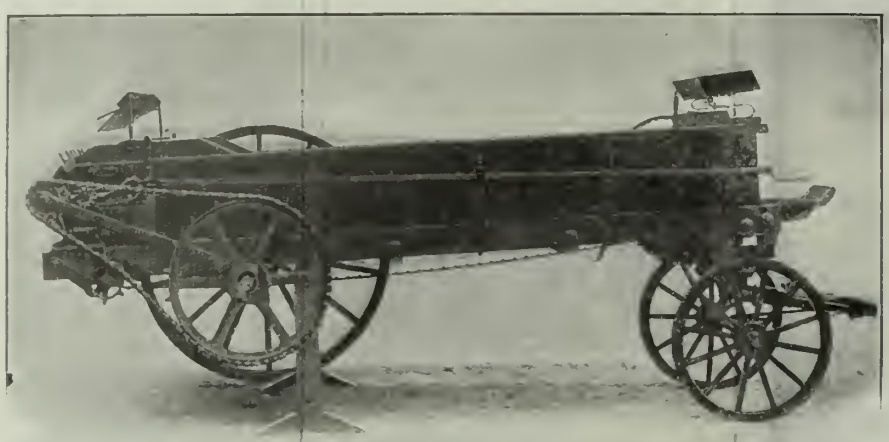
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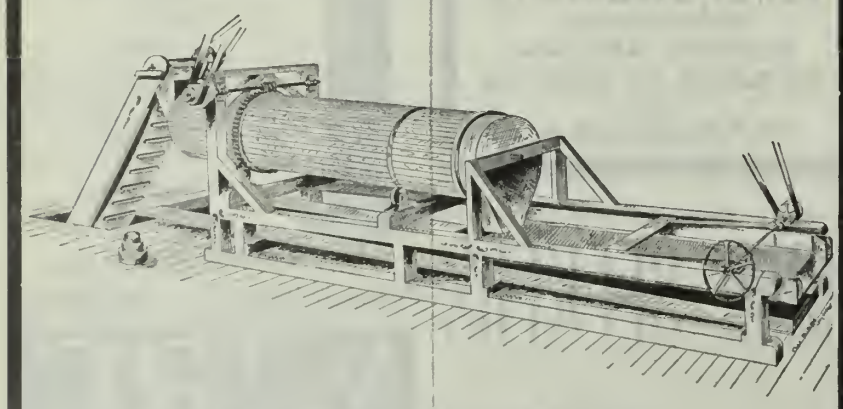
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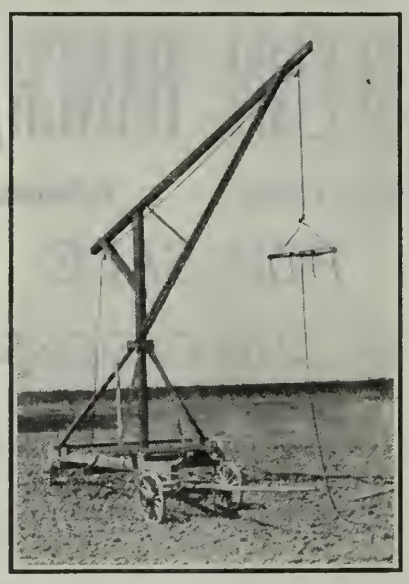
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AND CALIFORNIA FRUIT BULLETIN.

Vol. LXVIII. No. 8. SAN FRANCISCO, SATURDAY, AUGUST 20, 1904. THIRTY-FOURTH YEAR. Office, 330 Market St.

Then and Now in South Africa.

Now that the study of ancient ruins has become of absorbing interest, and as governments and universities are freely pushing excavations which a few decades ago only enthusiastic individuals could be excited over, the subject of antiquity appeals to the popular reader as never before. Nowadays not only miners but literary critics are interested in the earliest records of mines. King Solomon's mines and the mysterious Ophir have stepped out of biblical connections and appear in fiction and in scientific literature, and they may yet appear definitely fixed in the history of the race which is now being constructed anew upon the basis of antiquarian researches. We turn aside, then, for a moment from nearer topics and indulge in a few views and a few words about things in South Africa which lie beyond the back fence of history, contrasted with a single characteristic scene of the present day.

Mr. Theo. F. Van Wagenen, who writes very interestingly of his observations in South Africa, and especially of the Zambesi valley, says that to the traveler with a penchant for archæology and the pre-historic, there are overwhelming evidences that the valley has at some period of the past been very extensively prospected by a race of people searching for gold, and that a vast amount of the metal has been taken away by these ancient miners. Some South African, with a statistical turn of mind, has attempted to cipher out what has gone, basing his calculations upon the size of the excavations that have been found, and has arrived at the figure of $375,000,000 or thereabouts. The Portuguese were the first of modern people to enter the region. In 1498, I think, Vasco de Gama made his first memorable trip from Lisbon around the Cape of Good Hope to India, and early in the following century landings were made at several points along the east coast to the north and south of the mouth of the Zambesi, where several small Arab settlements were still existing, and to which every year small quantities of gold were brought by the natives of the interior to be exchanged for such wares as the traders had to offer. According to both history and tradition, the Arabs have for at least 3000 years past traded down the west coast of Africa, and one of the chief articles carried back to the north was gold. During those far away centuries when Tyre and Sidon, and later Alexandria, at the mouth of the Nile, were the financial centers of the nations, this trade was not only a large one, but South Africa must have been the only part of the then known world that was yielding the metal in any considerable quantity. At any rate, history does not point out any other place. But from the time that the wand of commercial supremacy crossed the Mediterranean to Venice, the bullion trade of Alexandria began to decline. During the Middle Ages Africa was almost forgotten by the nations, and certainly the geography of its east coast was unknown to Europeans. When, therefore, the Portuguese rediscovered it, few traces remained of its former importance. But what did remain, and what could be ascertained, indicated points in the interior back of the coastal mountains where mysterious architectural ruins and vast mining excavations existed. The Portuguese made great efforts during the earlier period of their occupation of the coast to revive the industry of gold mining, and they met with some success. A number of their forts, cannon and muskets have been since found at scattered points of the interior. But the general incompetence and brutality of the Government officials of that day soon roused the hostility of the natives, and in a short time the explorers were driven back to the sea shore. Unfortunately, the records of these expeditions were either very badly kept or have been lost or are still buried among the Government archives in Lisbon.



The Ruined Walls of Kahma, Rhodesia, S. A.



Inside the Zimbabwe Ruins, Rhodesia, S. A



Ancient Workings Being Reopened in Rhodesia, S. A.



A Modern Camp in Rhodesia, S. A.

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SAN FRANCISCO, AUGUST 20, 1904.

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The Week.

Southern California has had a sharp dash of Arizona summer rains since our last report, and some injury is reported from the unseasonable dispensation. East of the Sierra crests there have also been dashes of rain. These things signify that the dry season is wearing on and that next month something wet may be met almost anywhere in the State, though only suburban residents with dusty gardens are asking for showers. For the ruralist it will be better to have the rains deferred until the fruits are all in, and it usually happens that way, though the rainy season opens in September and occasionally opens with a rush.

Wheat is still soaring. At Chicago, September wheat has risen 8 cents a bushel and December 9½ cents since our last report. Here December wheat has advanced 6½ cents per cental, while spot is nominally $1 per ton higher, but this holds for milling, as shippers and sellers are too far apart for anything to be done. A miscellaneous charter for Liverpool or London has been made at 23s 7d. No barley shipments have been made and prices are unchanged, except that the speculative market is a little stronger. Oats are firm, especially black oats for hay seed, which dealers are laying in in advance. Lima and black-eye beans are firm; other beans are quiet, with a deadlock between holders and buyers on the few pink beans now in sight. Bran is steady and middlings firm. Hay shows no improvement; receipts are now decreasing, though for the week as a whole they are heavy. Beef has a wider range, and mutton is quiet. Lamb is easier on the lower grade. Hogs are weak, under increased receipts. Butter is the same as before, though there is more tendency for fresh to accumulate, as the trade is being pushed as far as possible upon stored butter. Cheese is unchanged, with heavy receipts from Oregon. Eggs are higher for choice fresh, but persistent booming does not advance Eastern, nor do they go well at last week's figures. Chickens are in poor shape, as they are being crowded by an oversupply of inferior Eastern; other poultry is doing fairly. Potatoes are in oversupply and weak; onions are improved, with less offering and better demand. Choice fresh fruits are selling well, but poor is neglected, except that pears are rather weak, while fine apples sell well. Dried fruit is in good shape for all but prunes and raisins; prunes are, however, moving abroad fairly. There is a good demand for dried apricots, peaches and pears. Almonds are strong in the country, sales going as high as 14 cents for Nonpareils. Walnuts are being covered with orders, though prices may not be fixed until September 15. Fancy honey is firm, but trade is light. Hops are quoted higher for August delivery, but little is doing yet. Wool is very stiff, but quotations on fall are refused the making, while buyers are capturing country offerings.

Some persons seem to be knocking California butter at this port, alleging a content of water above that which the product should show. Such a position should not be taken without a demonstration of the necessity of it, because it is not nice to turn trade away from the home product. We understand that the tests made by those who know how to make them show that the California product does not deserve to be knocked, though there are undoubtedly people dealing freely in Eastern creamery goods who would like to push them at the cost of local producers. One ought to be careful about playing into such interests and current statements should be taken with allowance for a chance of this kind. At the same time those interested in the California product should demonstrate its standing in this respect.

Many of the readers of the Pacific Rural Press will be pained to hear of the death of Mr. John Rock, the pioneer fruit grower and nurseryman, who has done so much for the promotion of the fruit interests of California. His death occurred at Niles, Alameda county, on Monday of this week. He was a native of Germany and made his own way to this country in 1851 as a boy. He began his horticultural career at the East, served honorably through the war and came to California in 1866, settling on the ranch between San Jose and Milpitas, afterward famous as the original "Rock's Nursery." He had been identified with the nursery business ever since, and at the time of his death was president of the California Nursery Co. at Niles. Though exceedingly retiring by nature, he was generally conceded to stand at the head of his profession in this State and received distinguished honors from abroad for his pomological wisdom and enterprise. Those who knew him will be impressed with a sense of personal bereavement. His place in the horticultural history of California is assured.

It is announced that dairymen throughout the State are interested in the formation of a State Dairymen's Association, the first meeting of which will be held at Sacramento August 30th, during the State Fair. The new society will be a combination of existing organizations in various parts of the State, and great benefit is expected from the union of interests when a strong central body is formed. Prominent dairymen from Los Angeles to Humboldt county will be in attendance at the first meeting, and a number of bills will be drafted relative to cattle and dairying interests, with a view to presenting them at the coming session of the State Legislature.

The movement for the improvement of the great rivers of California and the incidental rescue of adjacent lands from destructive floods is assuming good headway. Three distinguished engineers, summoned to California by the State Board of Public Works, are now at work examining the rivers to secure personal acquaintance with their aspects before settling down to closer study of the problems which will be presented to them. These engineers are Major T. G. Dabney, of Clarkesville, Miss., Major H. P. Richardson of New Orleans, and Major H. M. Chittenden of the United States Army Corps. The first two have had years of experience with the flood problems of the Mississippi river, and the third is widely known for his achievements from an irrigation point of view. Meantime a strong organization is being formed to promote the realization of the ends which the engineers will declare feasible. This is a popular organization in which all are requested to take part.

There is but one Labor Day now. All the dates that once conflicted have been concentrated, in State and nation, into one day, September 5th, which throughout the United States will be observed this year wherever there is a congregation of labor unionists sufficient.

QUERIES AND REPLIES.

California Brewing Barley.

To the Editor:—Is the variety of barley known as the "California Bay" or "Bay Brewing" a two-rowed or a six-rowed variety? Any information that you can give me concerning it will be thankfully received.—Barleycorn, New York.

We cannot tell you very much about the variety grown at the East as "California Bay barley," because we have no barley with that distinct name in this State. We can guess pretty closely that the name came from the fact that a few years ago the barley grown near the south end of the Bay of San Francisco was locally popular for brewing and was called "Bay barley," in distinction from the barley grown in the interior, which was chiefly used for feed purposes, but more recently fine brewing barley is grown in the interior, and the Bay district has lost its former prominence in this regard. In the American Brewers' Review of May 1, 1904, you will see that the "Bay barley" which was credited to California is a six-rowed barley, but the writer of that paragraph is evidently wrong when he says that it is a native American barley. We do not so understand it at all. It is simply a barley which has been grown in California from the earliest times, and perhaps in advance of American settlement; as with other grains too, it may have run wild, just as our California wild oats is held by some to be a native plant, but both the wild oats and wild barley—if there was such in early times in California—are simply introduced species escaped from cultivation. It may be interesting to state that although we are growing a very fine barley for export for brewing purposes, a part of it is Chevalier, but the greater part is common undescribed six-rowed barley. There is considerable interest in the introduction of European barleys and the Hanna or Monrovian has proved very good and its area is rapidly increasing. During the last year the State University distributed also a number of other European brewing barleys and the interest in better barleys is keen, because we are making such heavy exports. The prospect is that we shall know very much more during the next few years about varieties of barley best for California, and whether the old varieties grown from early days will be pushed out or retain their hold is a matter yet to be determined.

Not a Clear Case of Pear Blight.

To the Editor:—I have sent you a Bartlett pear limb, showing some trouble. It is a sample of many; on some the trouble shows on the ends, but on most of the limbs it looks as if a fire had struck, leaving a living growth above and below. This tree is particularly exposed to the fumes of a smelter, the trade wind air currents carrying its fumes onto this tree more than others. I am wondering if that has anything to do with it?—E. M. B., Benicia.

The Bartlett pear limb does not of itself furnish complete evidence as to the cause of the trouble, and whether it is the pear blight or injury from other source can not be definitely stated. The pear blight is usually most safely detected by the occurrence of blackening, as though by fire, of twig ends, sometimes merely leaves, sometimes leaves and very small pears wholly turn black. These seem to be the points of entrance, and from them the disease proceeds down the twig to the limb and down the limb, and so on. Usually it runs a certain distance down one side of the limb, while there may be healthy growth upon it; also behind it on the same branch. Your specimen causes one to suspect such a thing; but not to determine it. The effect of fumes, so far as we have observed it, occurs on the leaves generally by first a yellowish discoloration in irregular spots, finally becoming darker, but not a full black, such as is caused by the pear blight. The matter will have to be more fully looked into, and if you are disposed to gather more specimens, especially those showing the discoloration at the ends of the twigs, we shall be very glad to make further examination.

Tobacco Growing in California.

To the Editor:—I have been referred to you for information in regard to tobacco culture in California. I represent Eastern interests, who are thinking of locating in California. The information I want would be: The amount of tobacco raised, quality, location and for what used.—Promoter, Los Angeles.

During the last thirty years hundreds of thou-

sands of dollars have been lost in efforts to establish tobacco growing in this State. The plant grows readily enough in many situations; the chief difficulty seems to be in curing, which is often more difficult in our dry summer than in the humid atmosphere in which most commercial tobacco is grown. There is, of course no difficulty about drying, but dried tobacco is not cured tobacco, as very many of our experimenters have found out to their financial sorrow. The latest considerable enterprise in your part of the State in tobacco growing was in Bostonia, in the El Cajon valley, San Diego county, but that was, we understand, quite unsatisfactory, although many growers were interested and quite a large enterprise was contemplated. The only place, so far as we know, where any amount of tobacco is commercially grown at the present time is near Cloverdale, Sonoma county, where a few acres are grown under cloth and cured in a house specially arranged for the regulation of temperature and atmospheric moisture. Such arrangements seem to be essential and the ability to use them to produce satisfactory results is apparently quite rare.

Almond Shothole—Ill Growth of Japanese Plum.

To the Editor:—Two years ago last spring I planted a small orchard at my home in Piedmont. Among my trees are almonds (I. X. L. and Nonpareil). The first two years both grew very well and seemed healthy. This season the I. X. L. has made good growth, but the Nonpareil has grown very little, and the leaves have dropped continually and have the appearance of those I send.

I also have a Japanese plum. The first two years it grew well and appeared all right, but this year the first leaves that came out curled like those enclosed, and the tree was slow starting on this season's growth; but the past eight weeks it has been growing all right, and the leaves on the new wood are all right. The first leaves still hang on, but are all curled.

The first leaves on my peach trees curled badly. Is there any remedy?—Amateur, Piedmont.

Your almond tree is affected with the shothole fungus, the name coming from the round apertures made in the leaf, appearing as though they were holes made by shot. The treatment for the disease is a thorough spraying in the winter time with the Bordeaux mixture, and the same treatment is the best known for the curl leaf of the peach, so that you should give both your peach and almond trees a thorough treatment with this material during the dry time in the winter after the leaves have fallen. It is impossible to state just what affected the Japanese plum. It is not like the curl leaf of the peach. The probability is that there was too much water standing in the soil during the winter. We had our rains last winter in the Oakland section all in a bunch continuously for nearly a month. Standing water injures the root hairs and interferes with the healthy growth; if it goes too far, the tree dies; if it is only a light injury, the first growth is interfered with and subsequently better foliage appears. This seems to be the case with your trees, and the probability is that they will get on all right, providing the same trouble with excessive rain in a short period does not reoccur.

Selling Cut Flowers—Oleanders.

To the Editor:—Do you know of any florist in the city where I could sell cut flowers, such as carnations, smilax, pinks, violets and wild poppies, and if they could be sent so far without wilting if properly packed? Is the oleander poisonous?—K. T., Yuba City.

Nearly all florists buy flowers, but they naturally require just what their trade demands, and supplies must not only arrive in perfect condition, but must endure for some time afterwards. No one can supply them satisfactorily without much experience, not only in growing but in packing for transportation. We see no reason why, with proper knowledge and skill, one could not satisfactorily deliver cut flowers from Yuba City in San Francisco by night express, but whether it would pay is a question of much doubt. There is an ample supply of flowers grown near the city, and, no matter how good your stock might be, the express charges would of themselves preclude you from successful competition with near-by growers. They could make money and you would lose at the same selling prices. Of course, it should be said that there is no market for ordinary garden flowers, such as one might enjoy at home. The stock must be professionally grown and handled. Many amateurs have been encouraged to go into this trade, even near the city, and nine out of ten of them fail to make anything at it. The oleander has a bad name and we would not eat it, but we grew up in New York, where the oleander was always in the house, and never knew of a case of poisoning.

The Flat-Headed Borer.

To the Editor:—What is the best remedy or preventive for the flat-headed borer that attacks the young fruit trees, especially the apples? They seem to get in whether the bark is injured or not, for I have found them in trees that had no blemish or scratch on the bark that I could find. I have dug out a good many with my knife, and where the tree was not girdled I have sometimes saved its top from dying. All the trees are green below where the borers are at work, and will probably sprout next spring.—Interested Reader, Napa Redwoods.

The borer can get into the tree without leaving any scratch or mark which you would notice, because when it emerges from the egg and enters the bark the larva is almost too small to see without a magnifying glass and no visible wound is caused. But common observation is, that though there may not be at the time any visible exterior injury, the bark has been burned by the heat of the sun. This may not always be the case, but usually sunburn and borers are found together. The way to protect the bark both from sunburn and borers is to whitewash the bark as soon as the trees are set out and keep the stem whitewashed until the top completely shades the trunk.

Topping and Stripping Corn.

To the Editor:—I have a crop of corn, perhaps seventy acres, which is somewhat late. My neighbors tell me that if I go over the field and pull off the large leaves and cut the stalk just above the ear it will hasten it to ripen. Is this true? When is the best time to do it? About how much earlier will it make it? As we have early frost would not the frost accomplish the same result?—Subscriber, Mendocino county.

The old impression that tasscling, topping and stripping had beneficial effect upon the maturing of the corn plant and increasing the yield has been displaced by many experiments. The old practice was apparently wrong and has been practically abandoned in the great corn growing States. The frost will not help the plant nor will it hurt any corn which is sufficiently advanced in maturity. Inasmuch as this reply may run counter to the convictions of some of our readers, we shall be very glad to have the observations upon which they base different conclusions. Of course, conclusions should be based not upon prevailing belief but upon instances in which difference was noted in parts of fields which were topped and in other parts in which were allowed to mature in natural form. There are some local bearings which may not be covered in the conclusions cited above and, if so, let us have the facts.

Probably Pear Blight.

To the Editor:—I mail you portions of diseased limbs of the Wagener apple. My son discovered the trouble six weeks ago and took it to be sour sap and split the limbs, as you will see in some of the pieces. Recently I was at the orchard, which is in the San Lucia range, 10 miles back northeast of Cayucos, and, noticing the dry limbs, I took my shears and went through the lot of 190 trees and had to cut from one to three main branches from three-fourths of the block. Some were dead and dry down to the fork and some half way and new sprouts were pushing out below the injury and some live wood above, as you will see by the specimens. Pear trees are dying back in this county. Some of mine on the coast and on the hills are badly affected. They seem to start to die from the top, while the apple limbs start in the center by the young shoots dying and the disease encircles the limb, which seems to be pinched to half the size of above and below. Please bear in mind this variety is the only one affected out of over 3000 trees planted in 1901.—Jas. Cass, Cayucos.

The specimens which you send almost fully demonstrate the presence of pear blight on your apple trees. The disease is probably affecting your pear trees also. You probably have had full information as to the character of this disease and what can be done for it through your reading of the many descriptions published in the Pacific Rural Press. We do not claim complete demonstration from your specimens, because you send only the larger wood. It is always desirable in determining this disease to have the blighted and blackened foliage, particularly the tips which show the progress of the disease from the point of entrance to the larger wood below, but still the behavior upon the bark of the older wood in your specimens leaves little doubt as to the accuracy of the determination. We are sorry to give you this information and we refrain from positive declaration so long as it can be escaped, because the blight is undoubtedly the greatest menace to the success of our orchards which has yet appeared in California.

WEATHER AND CROPS.

Report of the U. S. Weather Service for Week Ending August 15, 1904.

Alexander McAdie, Forecast Official and Section Director.

Coast and Bay Sections.

The weather during the week was cool and cloudy in the coast districts with occasional fogs, and generally clear and warm in the interior. Grain harvest is nearly completed, and thrashing and hay baling are progressing. Bean harvest is in progress in Lake county and will commence soon in the south; a good crop is probable in both sections. Hops and sugar beets are in excellent condition and advancing rapidly. Corn and vegetables are doing well. There are some reports of injury to grapes by the grapevine disease, but in most sections the outlook is good for a large crop. Prunes are reported light in many places, but the fruit is of excellent quality. Apricots are yielding a better crop than expected in San Benito county. Olives, almonds and walnuts are in good condition.

Sacramento Valley.

The temperature continued slightly below normal during the week, and the weather was generally clear and favorable for crops. Grain harvest is completed except in a few places. Thrashing and hay baling are progressing. The grain crop is much lighter than last season's, but hay has yielded a heavy crop, excellent in quality. Hop picking and baling are in progress. Grapes are ripening earlier than usual in some sections and the crop will soon be ready for harvest; prospects continue good for one of the largest yields in several years. The first carload of Tokays will be shipped from Florin early this week. Fruit picking and drying are progressing. Pears are turning out very well, and there will be a fair crop of prunes in some sections. Almonds are nearly ready for picking. Oranges are in good condition.

San Joaquin Valley.

The weather during the past week was generally clear and warm and favorable to all crops. A few light sprinkles of rain were reported in the northern portion of the valley Tuesday. The grain harvest is completed; the yield was light, but the quality fair. The deciduous fruit crop is ripening rapidly, and canneries and dryers are in full operation; shipments are being made freely to local and Eastern markets. The prune crop is good. Almond harvest is progressing and the crop will be short. Table grapes are plentiful and being shipped in large quantities. Raisin grapes are making good progress and picking will commence next week; the crop will be large. Watermelons are plentiful, and corn and sorghum are making good growth. A large acreage of alfalfa has been left to cut for seed. Stock are healthy and in good condition.

Southern California.

The weather was generally warm and partly cloudy until near the close of the week, with occasional fogs along the coast. An unusually severe thunderstorm, accompanied by heavy rain and high wind, occurred in Los Angeles and vicinity on the 13th. Considerable damage was done in Pasadena and Los Angeles by the wind and water. Walnuts continue in good condition and an average crop is expected. Grapes are ripening rapidly and picking has commenced in some vineyards in San Diego county; the outlook is good for a heavy crop. Deciduous fruits are below average. Citrus fruits have been benefited by the warm weather and are in good condition. Beans are below average. Irrigating water is becoming scarce.

Los Angeles Summary.—A warm week; the water supply is rapidly diminishing. A short crop of Blackeye beans being harvested. Serious damage in localities to peaches, walnuts, hay and grain by wind and rain on 13th.

Eureka Summary.—Continued cool, cloudy and foggy, with some sunshine in middle of week. Oats and hay mostly harvested. Grain is ripening slowly. Large crops of potatoes, peas and corn.

Rainfall and Temperature.

The following data for the week ending 5 A. M. Wednesday, August 17, 1904, are from official sources and are furnished by the United States Weather Bureau for the Pacific Rural Press:

California Stations.	Total Rainfall for the Week	Total Seasonal Rainfall to Date	Total Seasonal Rainfall Last Year to Same Date	Average Seasonal Rainfall to Date	Maximum Temperature for the week	Minimum Temperature for the week
Eureka	.00	1.19	.32	.19	62	48
Red Bluff	.00	0.10	.00	.05	106	62
Sacramento	.00	T	.00	T	92	56
San Francisco	.00	.02	T	.02	66	50
Fresno	.00	.00	.00	T	104	62
Independence	T	T	.00	.09	92	64
San Luis Obispo	.00	T	.00	.03	96	52
Los Angeles	.12	.12	.00	.03	90	62
San Diego	T	T	.00	.08	80	66
Yuma	.00	.33	.04	.34	108	74

THE IRRIGATOR.

Seepage Investigations in Wyoming.

By B. P. Fleming, in Bulletin 61 of the Wyoming Experiment Station, Laramie, Wyo.

It is needless, perhaps, to enter into any discussion of what is meant by seepage, or to explain why the seeping away and subsequent reappearance of water should occur. The illustration of pouring three gallons of water into an eight-gallon vessel full of sand without causing an overflow is probably too familiar to need repetition. Every irrigator who draws water by small ditch or lateral from the source of supply has opportunities to observe for himself the phenomenon of seepage, as shown by the discouraging way in which a stream of water apparently large enough for his needs at the headgate shrinks away in volume before it reaches his land. And, likewise, every farmer who finds that his land requires less water yearly, while the low places are becoming boggy and alkaline, has before him the best possible illustration of the saturation of the soil and subsoil through the effects of long continued irrigation.

Aside from the importance which the effects of seepage may bear to the individual irrigator, we have its influence upon the larger questions of water distribution and stream control.

Properly speaking, no final and ultimate apportionment of the waters of a stream would be possible until data had been gathered showing to what extent seepage affected not only the stream flow, but the flow of all ditches and canals diverting water from the stream, and in what way the saturation of the soil through the same cause affected the amount of water required by the land.

Many of our streams flow through considerable stretches of country with but very little apparent or actual diminution of flow. This in spite of the fact that there will probably be found no visible tributaries, and though in the more thickly settled sections along the stream the entire flow passing a given point may be diverted and used on lands in the vicinity. Theoretically, this leaves none for appropriators farther down the stream; yet below these lands water will be found, and it would be practically impossible for courts to refuse permits to divert this water, for it is there and available for use.

The effects of seepage are being very generally recognized by courts and water officials, the recognition even extending to the granting of rights to claimants whose proposed works lie entirely above older appropriators on the stream, providing it can be proven that by so doing no injury is done to prior users. As to the possible injury done to such users, it is a growing belief among intelligent irrigators, particularly in sections where diversified crops are grown, that the use of water upon lands near the headwaters of the stream is of decided benefit to users farther down, tending as it does to diminish the spring floods, the water applied to the higher lands in the spring returning to the stream later in the season and maintaining the flow when water is most needed.

In connection with this topic, it will be of interest to cite an example of this effect of seepage as found in an investigation of Sand creek, in Albany county, during the season of 1902. At the measuring station maintained at the head of the valley there passed during the months of April to July, inclusive, a total of 1877.82 acre feet. At the lower station during the same period there was a total flow of 1014.79 acre feet. Between these two stations water was diverted and used under seven ditches. The aggregate amount used in these ditches during the same period amounted to 1549.23 acre feet. Thus, had no seepage occurred, 328.59 acre feet would have passed the lower gauging station. But, as 1014.79 acre feet were actually measured at this station, we have 686.20 acre feet which we can only account for under the assumption that this amount returned as seepage. Indeed, in the month of May, during which occurred the greatest use for irrigation, the total amount used in the seven ditches exceeded by 177.40 acre feet the amount passing the upper measuring station, while during the same time 267.19 acre feet passed the lower station. It is evident, therefore, that a large proportion of the amount of water diverted by each of these seven ditches immediately returned to the stream and became available for use in the next succeeding ditch.

In a general way, therefore, seepage may be said to be of advantage in making possible the irrigation of larger areas of land than would probably be irrigated were its effects not present. It is, however, of great disadvantage to the small ditch owner, who is apportioned a certain definite amount of water which is measured at the headgate. Before this water reaches his land he may lose one-half of it by seepage. It, therefore, becomes of no little importance to him to prevent this loss.

Prevention of Loss.—It is the belief of many practical irrigators that by giving water a high velocity over porous formations, by increasing the grade—thus decreasing the size of channel required—they decrease at the same time the chances for seepage. While to a certain extent this is true, yet in time it will probably be found to have the very opposite of the effect desired. Nearly all water contains a certain amount of sediment. With a low velocity, this is gradually deposited on the sides and bottom of the channel and in course of time a highly impervious lining is formed, greatly reducing the seepage loss. With a high velocity, on the other hand, the suspended sediment is carried along with the current and is not deposited on the porous sections, while at the same time such fine material as might be present in the soil is carried away by the current and the porous sections remain more porous than ever before. A high velocity, then, is not successful in reducing the seepage loss. Of course, where the water is valuable enough to justify the expense, a lining of concrete, puddle or some other impervious covering can be employed; but in Wyoming we are hardly far enough advanced in our agricultural methods to make such methods profitable. However, the amount of loss from certain of our canals is surprising, and even in the localities which will be mentioned some simple yet effective means for stopping seepage loss would certainly be a paying investment. The methods we would suggest are: First, to provide such a grade that the velocity will not be excessive. Many laterals are built on the slope of the country which may be 50 feet or 100 feet per mile, and the erosion thus induced causes not only excessive seepage losses, but also unsightly and dangerous gullies, which detract from the value of adjoining land. Where these laterals are already constructed, it might be well to place checks or drops at frequent intervals, thereby reducing the grade and consequently the velocity. Second, where the velocity is not excessive, it has frequently been found very satisfactory to dump fine clay into the ditch at the headgate, or just above a particularly porous section. The current will carry the particles of clay along and deposit them in the channel, forming, eventually, an impervious lining. Where the channel passes over a gravel wash, land slip or gypsum bed, and fluming, because of its cost and maintenance expense, is not desired, burlapping spread along the channel and secured by pegs forms a valuable adjunct to the treatment with clay. The clay particles which would otherwise be washed into the interstices of the gravel and do no good are caught in the meshes of the burlapping, the result being in the course of time that little or no seepage will occur where formerly excessive amounts of water were lost.

Amount of Loss.—The loss of water from canals and the gain in the flow of rivers is, as we have previously stated, a question of growing interest and importance. Unfortunately, the nature of the problem is such that actual determinations of the amount of loss or gain are of little value except in the particular locality in which such determinations are made. Because of the varying conditions of the soil and subsoil in their physical and chemical properties, and the difference in the geological and topographical character of different localities, measurements made in each locality upon canals of the same general character would show wide differences in the losses or gains by seepage. During the summer of 1903 a series of seepage measurements were made by this station in co-operation with the office of Irrigation Investigations of the United States Department of Agriculture.

Summary.—The following conclusions are drawn from the measurements which are given in detail in the bulletin:

1. The Laramie river throughout its length gains a varying but always appreciable amount of water by seepage from adjoining lands, the gain averaging 0.42 second foot per mile, the highest gains being 1.00 second foot per mile, near Woods Landing, and the lowest 0.06 per mile, below Reservoir No. 2.

2. All the canals investigated show large losses by seepage, the largest losses occurring on the high-line canals, the smallest on the canals in the river bottoms.

3. The average loss per mile from canals, excluding the Divide Ditch, amounts to 5.79% of the volume carried per mile, or 1.08 second foot per acre of wetted perimeter. The highest losses in terms of the volume carried occurred on the Divide Ditch and Highline Canal, amounting, respectively, to 50.2% and 17.5%.

It is probable that seepage has a greater influence in sustaining stream flow, and, consequently, in increasing the acreage of land irrigated, than is commonly known. As shown from results on Sand creek and the Laramie river, the same water is undoubtedly diverted and used many times in succession.

National Irrigation Congress.

To the Editor:—The executive council of the National Irrigation Association has fixed the date for the meeting of the twelfth National Irrigation Congress at El Paso, Texas, on Tuesday, November 15th, to Friday, 18th, inclusive.

The people of this section of the arid West are anxious to make this coming congress equal to, and superior, if possible, to any former congress, and to this end we earnestly solicit your most hearty co-operation. Any suggestions that you can offer as to what might be done to add to the success of the congress will be thankfully received. Will you help us by working up proper enthusiasm in your section?

El Paso, Texas. A. W. Gifford, Secretary.

Sure; we shall do what we can to turn Californians toward the meeting. As for suggestions toward success, let all readers favor Mr. Gifford with them as he requests.

CEREAL CROPS.

High Prices for Wheat.

The predictions made in Bradstreets of a crop of only 580,000,000 bushels of American wheat leads the London Statist to make the following comparisons, three figures being omitted:

Crop.	Visible Supply July 1.	Farmers' Stocks July 1.	—Total	Exports.—
1904-05 580,000	14,000	36,600	630,600	....
1903-04 600,000	17,500	42,500	660,000	120,000
1902-03 675,000	23,000	52,000	750,000	203,000
1901-02 750,000	30,000	30,000	810,000	235,000

"The farmers' stocks and the visible supply on July 1 this year," says the Statist, "may be said to be at their irreducible minimum, viz., 50,000,000 bushels, and as the home requirements will not be less than 500,000,000 bushels, it is tolerably certain that America will not be able to export more than 80,000,000 bushels next season, of which nearly 50,000,000 bushels will be required for non-European countries, leaving 30,000,000 for Europe, the greater part of which will probably come in the shape of flour. The prospect, therefore, is that Europe will receive very little wheat from America next season. In Manitoba the prospects so far are good, but the sowing season was very late, and it is not likely that very much more than in the past season will be obtainable from this source, viz., 3,000,000 to 4,000,000 quarters.

"In south Russia drought has been so severe this season that short crops are regarded as certain in that country. Even the official report, which usually errs on the side of optimism, is unfavorable, as the following report, received from the Ministry of Agriculture this week, shows: 'State of the autumn-sown crops, according to reports to the Agricultural Department up to June 23, in European Russia, is getting worse, owing to the coldness and dryness of the weather. The crops are in poor condition in south Bessarabia and Kherson; mediocre in parts of the black soil districts, the southwest, the northwest and central Volga districts; good in other parts of the Volga, and satisfactory elsewhere. The spring-sown crops are bad in Kherson, south Bessarabia, Volhynia and Vistula; mediocre (but giving hopes of improvement) in Lithuania, the northwest and part of the black soil districts; fairly satisfactory elsewhere.' From Roumania the reports are equally unfavorable, a crop 40% less than last year being considered certain.

"Thus, to put it briefly, the outlook for next season, beginning on August 1, is that America, Canada, Russia and the Danubian countries may not be able to spare for Europe in the aggregate more than 25,000,000 quarters, compared with 36,000,000 quarters in the past season and 46,125,000 quarters last season. India, Australasia and Argentina are the only other sources of supply, and as the European countries next season will require to import 56,000,000 to 58,000,000 quarters, it becomes quite a serious question whether these requirements will be easily satisfied. In our opinion, there will be absolute scarcity if the next Argentine crop, to be reaped next December, be not a large one; and even if it equal the record crop of the past year in that country, higher prices than those which at present obtain will be necessary to obtain the needful supplies by drawing upon the old stocks in the various countries. What seems to us to be quite clear is that every bushel of the surplus wheat in India will be required."

THE FIELD.

Women on the Land.

By Miss Theresa Wilson, an English woman, at the Women's International Congress in Berlin, Germany.

In these days it is no new thing to find women working their own land—as gardeners, small farmers, or fruit growers, managing poultry and dairy farms, and in some cases farming in the more general sense of the word. The question is no longer one of possibility, but of suitability. Is the life of an agriculturist or horticulturist—for with regard to the main issues they may be classed together—a suitable one for women?

Essentials.—The fact that the pursuit of agriculture need not in any serious way interfere with the home life is certainly a point in its favor. The healthy conditions that usually accompany it—plenty of fresh air and exercise—are also to the good. Its success as a profitable undertaking depends very largely on unremitting attention to

detail, and in this women as a rule are found to excel, while the care of young life, whether of plants or animals, seems naturally to lie in woman's special province. There are, however, special qualifications necessary to success, the most important being: (a) a capacity for hard work; (b) perseverance under difficulties and disappointments; (c) a real love of the country. But even where these qualifications exist, they are not sufficient without special, definite training.

Education.—Training is not a "fad," as so many would have us believe—it is a necessity. I venture to say that the "born" gardeners and farmers only exist to the extent summarized above—that is to say, their special qualifications only amount to patience, perseverance, industry and a love of nature which is real and goes to the roots of things, not spurious, merely caring for effect. Love always gives insight—in spite of its proverbial blindness—but it does not, and cannot, take the place of training. The training must be practical, but it should also be scientific. If the right practice can only be learned by rote and habit, then no one over the age of twenty need hope to keep pace with the country urchin who has hoed turnips, fed poultry and driven cows from infancy. But the right practice must be learned far otherwise. To be of real use, agricultural and horticultural schools must educate, not simply instruct. General principles and their scientific basis once fairly grasped, their application in individual cases is a matter of pure common sense. The actual carrying out of the various agricultural operations can only be mastered by practice, and it is well to remind those thinking of taking up agricultural life that the physical labor involved is considerable, and that it is far better to accustom the unused muscles to the work required of them gradually, and under direction, than to attempt to cope with the physical difficulties unaided. There is a right way and a wrong way of putting in a spade, or of carrying a bucket, and, small as such details may appear to be, they are by no means unimportant where time and strength are valuable assets. After the general training comes specializing in one or more branches of work, such as poultry rearing, fruit growing, vegetable culture, dairy work, and so on. It must not be forgotten that familiarity with the newest methods and appliances is true economy, for the agriculturist must be up to date if success is to crown effort in these days of fierce competition.

Last, but by no means least, business methods are essential, and it is here that women so often fail. Accurate account should be kept of every branch, the amount of time, labor and capital which it is profitable to devote to any one department being thus ascertained.

English Institutions.—Agricultural and horticultural schools and colleges abound. At most of them much that is very useful can be learned. At some the training is in every way adequate. The practical side is now made a feature of the courses, with due attention to marketing. The Horticultural School at Swanley is, perhaps, the best known. One general educational center in England has taken up the subject in a very thorough way, namely, University College, Reading. There the agricultural and horticultural departments stand on the same footing as the departments of science, letters and art. The practical training of the students is excellent. I mention especially the training at this college, not only because it is my alma mater for the above subjects, but also because it is now the only training school of its own standing where men and women are taught on equal terms, which I consider absolutely essential when women are to compete with men. It is of the first importance to discover wherein the one sex is superior or inferior to the other, and wherein their work may be considered on an equality.

How to Start.—Granted the qualifications and the training, the next step is to turn the same to practical account, and perhaps the most satisfactory method of doing this is to start a small holding. The management of a large general farm is very much more complicated, requiring considerable administrative ability and business qualities, which are, as yet, rare among women. A small holding should, however, be within the scope of most women agriculturists. A certain amount of capital must be forthcoming—how much depends on local conditions; but it is safe to say that the capital should be sufficient to cover the living expenses for at least two years, for adequate returns could hardly be expected before that time. It is generally wiser to begin small and build up stock than to lay out capital very largely at first, the risk of failure from want of experience or from continued bad seasons being so much greater in the latter case.

Co-operation.—Perhaps the strongest ally the small holder has at her back is co-operation. By this agency the small farmer is put in the same position as the large farmer with regard to credit, production, the hire of machinery, buying and selling in bulk, at the most favorable season, and in the best market. One of the most successfully organized associations in Great Britain for the purpose of aiding the small farmer in the disposal of produce is the National Poultry Organization Society, which has established centers in many parts of the country for the systematic collection of fresh eggs from neighboring producers. No matter how small are the individual daily supplies, the area tapped by each center is large enough to ensure a sufficient number of eggs being procured to pay for their disposal in the most favorable market. The association thus plays the part of a higgler, but of a higgler who, after paying his mere traveling and living expenses, returns the profits to the producer. These centers also deal in poultry, and in some cases fatting, cramming, plucking and trussing are carried on under their auspices, the farmer only supplying the live fowls.

Other Conditions.—Two or three branches of small farming carried on in conjunction are more likely to succeed than if only one is attempted, and possibly one of the best applications of the doctrine of co-operation is for several women to set up a holding together, one rearing poultry, another growing fruit, a third managing the house, or superintending some other department. For very heavy work it is always more economical to employ labor than to spend an exorbitant amount of time on its accomplishment, or to allow the health to suffer. Skilled labor is rarely necessary for such work, and unskilled labor is not very costly anywhere; but the owner must be able to direct the work herself, and lend a hand when required. No amount of hired labor will do away with the necessity for constant and careful supervision on the part of the owner, if the undertaking is to be a success financially.

Accessibility to a market and means of transport are very important questions to consider. Proximity to a local market should be aimed at, such a market as is afforded in Great Britain by a good provincial town, or a fashionable seaside or health resort, provided that the season for the latter is not a very short one.

Too much attention can hardly be given to packing, grading and marketing—details which the average farmer is apt to regard as unimportant.

The question of land and adequate housing are often difficulties. Tenant farming is the rule in England, and it is not worth while to put capital and labor into another man's land unless the tenure is of sufficient duration to make it reasonably possible for the farmer to reap the benefit of his outlay. Here, again, co-operative associations for the purchase of land to be divided up into small holdings, which contain outbuildings, machinery and marketing facilities in common, might do, and I believe are doing, a great deal.

Outside small farming and general farming the openings for women trained in agriculture are not very numerous in Great Britain, and are chiefly educational. There is a certain demand for teachers, county council and other lecturers in horticulture, bee keeping, poultry and dairy work, etc.; also for jobbing gardeners in the vicinity of towns. There are, too, a few openings in the florist trade, but these are not easy to obtain. Women gardeners are not very numerous as yet, and they cannot expect to become so if they stand on their dignity as ladies, and make difficulties as to their work.

International Organization. — Every country has, of course, its own problems and its opportunities, the experience of all being very valuable to those engaged in this work. At the close of the International Congress of Women held in London in 1899 the Women's Agricultural and Horticultural International Union, which I have the honor to represent at this Congress, was started as a direct outcome of the interest awakened by the agricultural meetings of that Congress. It has members in Great Britain, Canada, United States, Holland, Denmark, Poland, Tasmania, India and South Africa, and its promoters hope in the future to see branches organized in all parts of the world. By means of a monthly bulletin news is disseminated throughout its members, and much very valuable work is done in bringing producers and consumers, employers and employes into touch with one another. Unfortunately, up to the present the foreign membership is too small to cover the cost of printing the leaflet in any but the English language. This is a very great loss to those who are thus cut off from making use of the paper. A larger membership in the different countries of Europe would, of course, be the best remedy, and would in every way add to the usefulness of the Union.

Disadvantages.—So far no word has been said of the disadvantages of an agricultural life for women. The arguments most often put forward are as follows: (a) The monotony of the life; (b) its unintellectuality; (c) the physical strain, and (d) the smallness of profits.

(a) Those who plead monotony certainly fail in one of the above cited qualifications, namely, a real love of country life To the lover and student of nature there is something enthralling in watching the wonderful forward movement through the changing seasons; the mystery of seed time and incubation, the miracle of growth, the wonderful development of instinct, the battle with disease, the response of both creature and plant to fair treatment—all these things, apart from the ever-changing beauty of the country, become part of the thoughtful agriculturist's life.

(b) As for unintellectuality, mere "cloddism"—to coin a word—is out of date. All the known sciences are requisitioned, and very rightly so, to enable present day farmers to bring the best out of the soil, to combat insect and fungoid pests, to produce new and more profitable varieties in the vegetable kingdom, to develop new breeds and modifications of breeds in the animal kingdom, and so on. The literature of agriculture grows yearly, and the effort to keep up to date even in a few limited branches of the subject is hard enough work at the end of a long day out of doors. But it must be done if one is not content to be left literally in the mud.

(c) It has been already stated that too much heavy work may be harmful, such as digging, plowing, etc., but with a little management and economy in other ways it is almost always possible to employ labor for the hardest operations, although I would repeat that it is absolutely essential that the work be supervised and thoroughly understood by the owner herself. For my own part, I think that there is an immense amount of satisfaction to be got out of a hard bit of digging—and the very mention of it makes me long to be at it now.

(d) It is quite true that fortunes are not to be made out of agriculture in its present condition, anyhow; but given that the essentials to success mentioned above are forthcoming, a decent living can be made, combined with a healthy life. The farm will not provide for a London season, nor for an annual trip to Switzerland. But to those who are content to find recreation and enjoyment in the life itself—and much recreation and enjoyment are to be found in such a life—I do not hesitate to say that the results will amply repay their efforts.

THE POULTRY YARD.

Poultry Profits.

To the Editor:—Hardly a week passes without the coming of inquiries for young laying stock—White Leghorns and White Minorcas. These missives come from far and near, denoting a widespread demand for laying poultry. All this indicates a growing interest in our State for "better poultry, and more of it."

Many persons who desire to purchase pullets or other laying hens are often disappointed when applying for the birds, because there are so few for sale. The fact is that pullets and 1 and 2-year-old hens are good property, and, as long as the owners can realize from $1 to $1.50 per hen per annum, there is little disposition to sell, unless it be that the poultrier is overstocked.

Even from the large flocks in the vicinity of Petaluma it is difficult to procure a limited number of birds. The outlook is that this state of affairs will continue for an indefinite period. If any person is disposed to raise good fowls, for sale when from five months old up to twenty months, such an one can be fully assured of a good demand for all he can raise. Good 5-months-old White Leghorn pullets command nearly, or quite, $9 per dozen, and one need not expect to purchase hens from the general flock for less than $1 apiece.

While one year may seem a long time for a flock of young chickens to develop into laying fowls, it is oftentimes the most certain way to obtain a flock of good layers, of greater or less dimensions. Good incubators are to be had at varying prices. If one is so fortunate as to get a fine pattern of brooder—one that has excellent ventilation and in which the temperature can be easily regulated—and if such an one is wise in the after care of young birds, it will not be so very long before he has a flock of which he may justly feel proud.

From time to time there appears in the papers of the day what have been aptly termed poultry "fairy tales." These narratives describe methods certain persons have used in caring for their flocks, the ease with which it is accomplished, and the flattering income derived. These fairy tales are read and fully believed in by many persons, and by others are passed by with little or no notice. While there is much that is conducive to health, pleasure and profit in the poultry business, the situation can be overstated—unduly magnified.

There is no call for all this. Plain, matter-of-fact statements should be convincing enough to satisfy any reasonable person.

The following extract from an article in a recent number of the New York Tribune is so pertinent to this matter and to the business generally that it will be found, I am sure, interesting to the readers of the Pacific Rural Press who are in any way engaged in the rearing of fowls:

Those who have succeeded in poultry are those who have overcome obstacles and battled against and battered down opposition. I think a protest against these glowing and sensational statements of immense gains from a small outlay of money in connection with this light and fascinating work should appear once in a while in substantial agricultural papers and the truth indicated that there is profit in poultry, as in other things, when the business is handled properly and when good, honest work and thought are expended upon it. "Get rich quick" schemes are delusive and elusive. If one person gets rich quick in some scheme or business, put him down as a genius, or the result as one of the "happens" of life. It is not the rule with chickens, nor oil, nor railroads,

nor newspapers, nor even farming. Hard work and hard thought, and plenty of both, are the foundations of success. That is the price of it—and many pay the price without getting it. If one gets it without paying the price, he is in a class by himself, and no guide to us ordinary mortals.

Chickens certainly pay good profit and invite culture from scores and hundreds who can raise a few on a small piece of land. When one has acquired the knowledge and the faculty of feeding and caring for 200 hens, he will be in receipt of a modest income, which will make the way of life much easier. The road to this desirable result is that of slow, steady and continuous progress: and he who attains possession of 200 hens and knows how to take care of them will have learned something that is not down in the pages of books, but which has been worn into him by the hard rubbing of everyday facts. He will know he will not get rich quick from a few hens, for one thing. For another he will know that he cannot get rich in the poultry business otherwise than as men get rich in other business; namely, by doing a great deal of it successfully. For another thing, he will know that there is good profit and much satisfaction in doing even a little of the business.

We seldom take into account the value of the manure that accumulates in the hen houses. These houses should at all times be kept scrupulously clean. It will pay to spend the requisite time, once a week at least, to remove the droppings. If this manure is kept in barrels or boxes, or if it is at once placed in the garden or orchard, one is surprised at the large amount even 100 hens will produce in a month.

It will pay to carefully make use of this product of the fowls. If applied direct to tender vegetation the manure will burn and kill the plant; but, mixed with equal parts of road dust or common soil, it will be found an excellent dressing. Fruit trees readily respond to a liberal supply of the manure, as will grains and grasses. We might well make some offset in the cost of feed for fowls, because of the value of their droppings.

Alfalfa is rapidly growing in popularity as food for fowls, both in the green and dried state. Its value cannot be overestimated. Competent analysts state that its value is equal to that of good bran.

Green alfalfa is not available by many keepers, where the baled hay can readily be procured. Get the finest second-crop hay, cut into half-inch lengths, moisten with hot water, cover tightly and let it steam for two to three hours or longer. This, with a liberal quantity of meal added, will prove an excellent ration, especially at this season of the year, when many of us are puzzled to provide an adequate yet cheap supply of green food for our fowls.

A. Warren Robinson.

THE GARDEN.

Growing California Daffodils.

Mr. Charles H. Shinn writes to the Orange Judd Farmer as follows:

In September, Chinese, Japanese and dark-eyed Portuguese girls and boys may be seen picking up the ripe prunes from the ground in mile-wide orchards of the Santa Clara valley. Piled in great brown heaps in the shade of trees are thousands of bulbs, not onions, or anything edible. They are only daffodils, taken up this year to be planted again with the earliest rains. This does not happen every season; it is only needful when the soil is too nearly exhausted and too crowded to pay for the continuance of the beautiful crop of spring daffodils. Once in three or four years the bulbs need new soil and more space. They might be given this every season, and some growers prefer it, but they blossom later after removal, and that makes a difference in the profits. It is better to cultivate well, and, if necessary, to fertilize with nitrate and phosphate for several years, then take up, spread out over a new and larger area and put the old plots to other uses.

In California, daffodils are becoming a feature of the January and February flower markets of San Francisco, San Jose, Oakland and many other towns. There are many growers on a small scale and a few whose plantations are of a considerable size. The bulbs increase so fast, and in fact suit the climate so well, that in a few more years California-grown daffodils will appear in many autumnal catalogues. Bulb growing on a large scale will be confined to a few districts not yet clearly defined, but in process of development. There is plenty of suitable climate, but the best soil is not so easy to find. Everything is still in the experimental stage. Here at Niles, near the Alameda creek, there is deep, rich, well-drained loam and sand, offering much variety and seemingly excellent for bulbs. At Haywards, Mrs. Kersey has one of the warmest and most sheltered of adobe hill slopes, producing without irrigation extremely early flowers and large bulbs. On the same kind of soil in the level valley daffodils do not bloom till March.

THE SWINEYARD.

No Monopoly in Breeds.

Speaking of the relative merits of the different pure bred breeds of swine, Prof. J. H. Skinner, head of the animal husbandry work at Purdue University, Lafayette, Ind., is credited with the assertion that "All modern breeds are good; all have a place; no one has a monopoly of all the good points." He maintains that the producer of pure bred swine is interested in three important things—the breed, the individual and the pedigree. Discussing this subject, Prof. Skinner says:

"The man who goes into the breeding business should be governed in his choice of breeds by his surroundings, the trade or market demands, and opportunities for sales. These precede his personal likes or dislikes. It may be that the location in regard to others may determine or help determine the choice. Frequently a community of breeders will be an advantage in selling. In some instances it may be better for the beginner to take up a different breed from that found on neighboring farms and thus take advantage of the opportunity always open for new enterprise.

One need only look over the hogs that appear in any of our large markets in order to be convinced that there is great need for more careful selection of parent stock in case of market hogs. Other evidences of the neglect of this most important matter are to be found in the small litters, lack of size, bone, etc. Pure bred hog men give much more attention to the work of selection than men who are producing for market; but too little attention is given the matter by both classes of breeders. They have ignored essential points, to the detriment of the breeds.

"In selecting breeding stock, one of the first essential considerations is the breeding. It is important alike to all classes of breeders. The knowledge of the breeding and ancestry of the breeding herd enables one to tell to a reasonable degree of certainty what the offspring will be. Furthermore, the prolificacy of the herd may be influenced by selecting breeding stock from such strains as have proved to be of value in this respect.

"It is well to select animals whose ancestors have good breeding and feeding qualities. In the case of the pure bred herd, they should come from noted families and strains that have achieved success in both show and sale rings. These have intrinsic merit and sell more readily to breeders. While pedigree and breeding are important features in the selection of breeding stock, individual merit should be kept in mind. Too many are inclined to buy pedigrees without anything back of them.

"Having considered breed and breeding, one should decide on the type of hog he desires to breed, and then pay particular attention to the form and quality of his animals. The most profitable type will be one which, along with good breeding, has plenty of bone, good size and at the same time quality and early maturity. The females should be of good lines, have a straight and slightly arched back, short, broad head, large, deep heart girth, well sprung rib, strong back and loin, with large, deep hams, and standing on good feet and strong legs of medium length.

"Some will prefer young sows and others old. On this point successful men differ. Much depends on conditions. Where one is producing pork for the market, young sows may be most profitable if properly mated with a mature male. On the other hand, a tried brood sow is usually to be depended on, and the breeder of pure breeds will not give her up until she has begun to go backward. The breeding of young and immature animals is likely to lead to undesirable results, such as lack of size, lessened vigor, impaired breeding and feeding quality.

"Having selected the foundation, it is important to breed so the pigs will come as near the same time as possible, as uniformity means much, both in feeding and on the market. Here again the time of breeding will depend on conditions and surroundings. If a breeder or showman, very early spring pigs are worth two or three times as much as late ones. Such men can well afford to provide suitable shelter and sufficient protection to save the youngsters in severe weather. The pork producer, on the other hand, will doubtless find more profit in pigs which are farrowed after the severe weather is over, as they require less care and attention."

FRUIT MARKETING.

Bordeaux Prune Crop.

From Albion W. Tourgee, U. S. Consul, Bordeaux.

The prune crop of 1904 in this consular district at this date gives promise of being one of the best ever known.

It is impossible to compare it with that of 1903, when there was practically no prunes at all in this region—the dealers being compelled to import California prunes to fill orders for home consumption. There is consequently no considerable stock of prunes on hand.

It is useless to talk about prices at this time, as a few days of unfavorable weather before the crop is gathered may reduce it to any extent. All that can be said is that present appearance indicates a crop quite unexcelled as to both quantity and quality. The stock on hand is almost entirely of California prunes.

No reliable statement as to price can be made before September. Then it will depend very largely on the California crop.

The average prune crop of this consular district is estimated at 500,000 quintals of 100 pounds each.

Bordeaux, July 16.

The French Walnut Crop.

From Albion W. Tourgee, U. S. Consul, Bordeaux.

The outlook for the crop of walnuts in this consular district has never been better.

The crop of 1903, unlike previous years, has been exported to the United States chiefly in the form of "shelled walnuts," amounting to 3,511,606 kilos, as declared at this consulate. The change in the form of shipment is probably the result of unfavorable conditions of the crop of 1902, a large part of which was shipped in such a state as to be refused by consignees, resulting in loss of litigation to the exporters. This change seems to be very satisfactory both to shippers and importers, as it naturally would be, since it obviates the danger of mould and heating, to which walnuts are perculiarly subject when exported unshelled in sacks, and eliminates the temptation to export in bad condition, which is peculiarly strong when the crop is poor. In 1902 I inspected shipments "on board" in which fully one fourth of the nuts were mouldy and it was evident that entire lots would be affected before they would reach their destination.

The cheapness of manual labor also makes it desirable that everything of this character should be exported in its manufactured form. It also reduced the cost of transportation, and if prices are properly adjusted is highly advantageous to both parties.

The prices for walnuts ranged from $2.41 to $2.70 per 22.046 pounds for shelled, and from 50c to 60c per pound unshelled—of which the quantity was so small as to hardly be considered.

The freight rates to New York from Bordeaux via Liverpool or Southampton are: Unshelled walnuts in bags, 30 shilliugs, plus 10% per 600 kilos—or about 1350 pounds; shelled walnuts in cases, 25 shillings plus 10% for 600 kilos—about 1350 pounds.

A line of irregular tramp steamers quotes a somewhat lower rate, averaging on all goods 20 shillings plus 10% per 600 kilos, but these steamers are very irregular as to time—making the passage to New York once a month, or once in two months, according to the quantity of freight they can get. The passage usually occupies from fifteen days to three weeks.

Bordeaux, July 16.

Servia's Prune Crop.

From Frank Dyer Chester, U. S. Consul General, Budapest.

The official pomological organ of Hungary, under date of to-day, brings a notice from Belgrade, Servia, to the effect that this year's prune crop in Servia will be the best in twenty years past, in quality as well as quantity. Forty-eight hundred carloads are expected over against 1680 of last year. Prices are already low, as a good crop is also expected in Bosnia-Hertzegovina and the Hungarian province of Slavonia. About 150 carloads of the old Servian crop are still unsold.

Budapest, Hungary, July 15.

RANGE INTERESTS.

The Land and the Stock.

The Western stock growers who were conferring in Denver for three days with the special land commission appointed by President Roosevelt, adjourned August 5. A resolution was adopted with practical unanimity urging upon Congress the necessity for the transfer at the earliest possible date of the management of the forest reserves to the Department of Agriculture, where not only the forests but all the interests involved may be properly studied and protected.

Discussion of the resolution concerning grazing land was animated, there being a strong sentiment in favor of amending these reports by the committees to urge the passage of a strict leasing law for arid lands of all States and Territories.

As reported and as finally adopted the resolutions are as follows:

Resolved, That we favor the passage of a law which will authorize the Secretary of Agriculture to thoroughly classify the vacant land of the United States and determine the conditions at present governing the use of the grazing areas, and to ascertain those sections of the range area, if there be any, to which a lease system can be satisfactorily applied, and be it therefore

Resolved, That the power to create and administer forest reserves shall be vested in the Department of Agriculture, which is specially organized and equipped for this purpose; and be it further

Resolved, That we favor the control of and jurisdiction over all public grazing areas by or through the Department of Agriculture; local questions being decided on local grounds and under regulations made to meet local conditions; that the range rights of present users of the grazing area, as determined by priority of occupancy and present use, shall be carefully safeguarded, and that no sudden or stringent upheaval of existing conditions which would cause commercial distress shall be made; on the other hand, such legislation must be gradual in its effect and leases granted only where locally satisfactory as determined by the proper authority.

Agricultural Review.

Butte.

ORANGE CROP. — Oroville Register: Mr. Travers says the orange crop about Thermalito is going to turn out better than many supposed for a time. The period between the date when the land was too wet to plow and then, owing to north winds, became too dry to plow was very short. In consequence many of the orchards were not cultivated as they should have been.

Kings.

SOME WHEAT. — Hanford Sentinel: Theodore Park came in last evening with a sample of wheat from the lake lands, and from that locality in the lake lands known as the Santa Fe location. The wheat was very plump and clean and not any smut on the sample so far as the kernels wore concerned. There was some balled smut, but that does not count, as the mills will take care of that. The Santa Fe locality on the lake bottom has already yielded 9000 sacks, which is about one-fifth of the total acreage of 5000 acres.

PRICES FOR FALL WOOL.—M. J. Catano. the sheep man, reports buyers bidding 8 to 10 cents per pound for fall wool.

IN A HURRY TO BUY.—Hanford Journal: Moritz Simon, the wool buyer, is still in Hanford and says that he is meeting with good success in buying. He says that he this year purchased, for the first time since he has been in the business, a clip of wool which is still on the backs of three bands of sheep. He has always, heretofore. purchased the wool after the shearing, but he knows the wool off the different bands of sheep so well that he feels safe on taking chances.

Los Angeles.

LIGHT PEACH CROP.—Pomona Times: The peach crop in the Pomona valley will be a light one this year as compared with even an average crop. At the Waters cannery things are now going with a rush, with 320 hands—men, women, boys and girls—at work. Last Saturday they put up 82,565 cans of clings, using three carloads of fruit. It took all day and the greater part of the night to complete the task. Monday two carloads more were canned, and yesterday three carloads more. In all, for the Waters cannery and the one at Ontario, in which he has a financial interest, 650 tons of clings from the north have been contracted. Probably 100 tons will be the local crop of clings, and about 400 tons of freestones contracted by the two canneries. The season will be a short one on peaches.

Napa.

PRICES FOR GRAPES. — Calistogian: The crop of grapes throughout Napa valley this year is looking fine and the yield will be good. The California Wine Association offers $15 per ton cash for all grapes hauled to their cellars this year. It is thought that they will pay a little more for some varieties.

Orange.

ORCHARD SALES.—Anaheim Gazette: Geo. A. Hunter this week sold his 35-acre ranch to Mrs. M. A. Pearson and her son, Atley Pearson, of Los Angeles, for $15,000. The tract consists of twenty-six acres of walnuts and eight acres of oranges. The trees are 14 years old and are second to none in the valley. The walnut trees have upon them a maturing crop of nuts valued at $2000. The place is within the water district and has, besides, a fine pumping plant upon it, the well heing some 300 feet in depth. The well is near the deepest in the valley. The sale of the Hunter tract, following closely upon the sale of the Rea tract of eighty acres last week for $40,000, emphasizes the fact that orchard property with water belt areas are in demand.

Riverside.

PEACH CROP SOLD.—Perris Progress: The Hemet Deciduous Fruit Association has sold to a cannery in Anaheim the entire crop of peaches under its control. A good price was offered, not less than $20 a ton, for any of the fruit. That price was freely offered for freestones. The directors concluded that spot cash for green fruit paid better than drying it. Every horticultural community needs both a cannery and dryer to market a crop advantageously. This year it is better to can. In other seasons it paid better to dry, but generally there is fruit enough for both dryers and canneries.

Sacramento.

PEAR BLIGHT.—Bee: L. C. Chisholm has returned from a tour of inspection of the orchards in the lower part of the Sacramento valley. to ascertain whether any damage had been done in the orchards by the pear blight. He discovered that many orchards have been injured, and also learned that the blight had been here for at least three years. In the Cosumnes river section, said Mr. Chisholm, the growers would be able to save their orchards. They have been busy getting rid of the pest by cutting out the limbs affected, and he was of the opinion that he could carry off all the pest at one armload. The growers in the lower Sacramento river district will also be able to save their orchards. Mr. Chisholm found much blight in the American river section, in the orchards about Orangevale, at Fair Oaks and about Folsom. In some localities Mr. Chisholm had ordered fruit trees cut to the roots. In the orchards lying to the northeast of the city the inspector found some traces of blight, but trees had not been seriously affected.

San Bernardino.

HOPE OF THE FRUIT GROWER. — Times-Index: Horticultural Commissioner Pease has for two years been raising the scutellista for the black scale, and last year released the first colony at Ontario. This season he has released thousands of the little flies. In looking over the orchards yesterday he discovered that about five out of every six black scale had a scutellista beneath it. What brought the greatest satisfaction was the finding of the little parasite in many orchards where it had not been released, which tends to show that the colony which Mr. Pease released last season has survived the perils of the winter and is now propagating its species.

San Diego.

HONEY CROP TOTAL FAILURE. — Union: That the honey crop of this county is a total failure seems to be a fact. The failure is due to the lack of bee feed caused by the dry winter. Those among the bee men who can afford to do so havo been buying honey as feed for their bees, but those who are unable to do this will simply have to let them die. All the ranchers are making a determined effort to keep their hives alive, but in many cases this will be impossible.

San Joaquin.

HIGHER PRICES FOR ALMONDS.—Lodi Sentinel: M. P. Stein, the well-known grain dealer and orchardist, believes that the output of almonds this season will not exceed a total of 100 carloads against a production of last year of nearly 330 carloads of ten tons each. The falling off in this year's yield seems to be the heaviest in the Davis and Brentwood districts. In the former place the present year's yield is estimated at sixty tons against a total of 225 tons of last year, and in the latter place they do not figure on more than 125 tons against 300 tons last season. In the Lodi and Acampo districts there does not seem to be much show of getting more than 100 to 110 tons this season, whereas last year they shipped away nearly 300 tons. This loss in the yield is partially offset by the higher prices now being offered to the grower. Agents are scouring every section and offering all sorts of tempting bids to the lucky orchardist who has not in some sort of way tied up his crop either by sale or by option in the early part of this season. Those who have not entered into agreement are now receiving 13¾ cents to 14 cents for their Nonpareils, 12⅝ cents for their I X Ls and 12¼ cents for their Ne Plus Ultras, net to them. In many orchards harvesting has commenced, but most of the nuts being gathered are Nonpareil and I X L, as they ripen the earliest. Then next come the soft shells, such as the Languedocs, Drake's Seedlings and the Texas Prolifics.

A $30,000 HAY FIRE.—The hay warehouse of Dickinson & Guernsey at Stockton was destroyed by fire Sunday morning. The loss is estimated at $30,000. The grain warehouse of the same firm adjoining the hay barns narrowly escaped destruction.

PRICES FOR WINE GRAPES NOT FIXED.—Lodi special to Sacramento Bee: To date the wine trust has not named the price it intends to pay for wine grapes, and some of the growers fear that not until the season is about ready will quotations be forthcoming. Some are of the opinion that the same prices as last year will prevail, that is, $12 to $14 the ton. Two years ago as high as $20 was realized for wine grapes.

WATERMELONS BRINGING GOOD MONEY. — Watermelon shipments have picked up considerably during the past week and as many as three a day have been made. An average of $100 a car is realized. G. A. Richman, the most extensive grower, has shipped fiftoen cars to date, realizing close to $1600 on the melons. The local growers have organized a trust and have been quite successful in keeping the prices up. No more melons are being sont to Oregon and Washington on account of the crops there coming in. Oakland, Sacramento and San Francisco receive most of the Lodi product.

Santa Barbara

MUSTARD CROP VERY LIGHT.—The harvest throughout the northern part of Santa Barbara county is the lightest in years. The mustard in twenty-five years was never so short and the barley crop will not much more than supply the home demand. The condition in the upper Santa Ynez is reported to be even worse. There is an abundance of hay as the result of immature crops.

WHEAT IN DEMAND.—Lompoc Journal: The shortage of wheat is surprising, and as a result the price of all grain has an upward tendency. Mr. Weilheimer has sold his wheat in the field at $1.40, in 10-ton lots, whereas heretofore it had to be delivered at the depot to get even $1 per cental.

Santa Clara.

SEED HARVESTING. — Journal: The onion seed growers are now a busy lot of men. The harvest is on in those fields planted early last fall. Chinese are preferred to almost any other class of workmen for that part of the seed industry. This season promises to be one of golden returns to the seed growers. It will require about one month to gather, thresh and clean all of the various seeds grown in Santa Clara county and prepare them for the market.

Sonoma.

THE GRAPE CROP.—Information gathered from reliable vineyardists throughout Sonoma county shows that the crop will be fully as large as that of last year. The vineyards have passed through the periods of danger from frost and sunburn almost untouched. Reports show only slight damage from mildew.

FINE PRUNES.—Healdsburg Tribune: Some fine prunes were shipped to the State Board of Trade yesterday from the orchard of O. G. Wagers and J. W. Carter. Some specimens went nine to a pound and the average of the lot was 10½. They were of the Petite variety. With the prunes were also shipped some fine Muir peaches, five of which weighed two pounds and six ounces. The peaches were grown by C. B. Wagers.

Stanislaus.

THE BANNER CROP.—Modesto News: Shruder Young finished harvesting his crop on the C. C. Baker ranch on the San Joaquin yesterday. He had 720 acres of land in wheat and barley and from this he harvested 11,540 sacks, which averages a little over sixteen sacks to the acre. Mr. Young says that the crop would have been larger and the quality better if the grain had not suffered from the early, hot spring winds; but as it is, he has one of the banner crops of the county.

LIVELY DEMAND FOR ALFALFA.—Modesto Herald: There seems to be a lively demand for alfalfa hay in this section and considerable is being sold for from $7 to $8 per ton in the stack and from $5 to $6 in the field. Charles Lane, who leaves soon for the East, has disposed of two large stacks of oats and alfalfa for the above figures. Mr. Dorward also sold a 12-ton stack of alfalfa. T. C. Simonds has sold his 10-acre place in Smyrna Park to J. W. Evans, the new principal of the Ceres schools. The place is partly improved to alfalfa and figs and has a small house. The price was $105 per acre.

BIG SHIPMENT OF PEARS.—Oakdale Leader: D. S. Stuart shipped two carloads of Bartlett pears, comprising 1085 boxes averaging 55 pounds each, to Fresno Saturday. Mr. Stuart sold his entire crop of pears at $27.50 per ton, delivered at the depot at Oakdale.

Tehama.

PICKING PEARS.— Red Bluff News: The Cone Ranch Co. has 100 acres in pears and about 7500 trees. For a month forty men have been as busy as beavers picking the ripe fruit, while a dozen girls or more have been grading the same to determine whether it shall go through the drying house to the consumer or to the dryer. There are about fifteen 2-horse teams kept going all the while, hauling the fruit to its destination.

Tulare.

CHOICE PEACHES.—Visalia Delta: Edward L. Smith, who purchased the John T. Brown ranch, has grown some peaches this year that probably have no equals in Tulare county. Some of the peaches measured 18 inches in circumference. He has fifty trees and the crop is large. The fruit is the orange cling variety.

Ventura.

BEETS COMING IN.—Oxnard Courier: The sugar making campaign of the Oxnard factory opened August 15th, at 6 A. M. The boets now being delivered are well developed and are running between 16% and 17% in purity, which is the usual average for this section. It is too early to give an estimate of the probable tonnage per acre, but judging from the size of the beets being delivered, there is every reason to expect a fair yield.

Yolo.

ALMONDS BRING GOOD PRICES.—Winters special to the Sacramento Bee, Aug. 13: Buckingham, Boyce & Wolley sold their almond crops on their orchards here and at Vacaville to-day. A number of buyers were here. Guggenheim & Co. secured the nuts at 14 cents a pound for the Nonpareil and 13 cents for the Ne Plus Ultra and I X L varieties. These are the highest prices ever realized for almonds here. Buckingham, Boyce & Wolley have about forty acres in almonds near town, and will harvest about as many tons, which is the bulk of their crop. Dried apricots are also being sold in large quantities at good prices, several lots having brought over 8½ cents a pound.

Yuba.

HOP PICKING.—Wheatland special to Sacramento Bee, Aug. 11: Within the past week Wheatland's population has increased between 3000 and 4000. This has been brought about by the hop harvest, which annually brings here people from all parts of the State. In the neighborhood of 3000 pickers will be employed in the Wheatland yards, distributed as follows: Durst Bros. 1600, E. C. Horst Co. 1000, P. C. Drescher 500. The hop men have all the help required. The crop will be above the average in quantity and quality, and the output will be between 8000 and 10,000 bales.

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The Home Circle.

The Heavy Mists.

The heavy mists trail low upon the sea
And equally the sky and ocean hide,
As two world-wondering ships close side by side
A moment loom and part: out o'er the lee
One leans, and calls, "What ho!" Then fitfully
August the voice confuses, and the tone
Dies out upon the waters faint and lone,
And each ship all the wide world seems to be.

So meet we and so part we on the land:
A glimpse, a touch, a cry, and on we go
As lonely as one single star in space,
Driven by a destiny none understand:
We cross the track of one 't were life to know,
Then all is but the memory of a face.

—M. J. Savage in the Century.

Ode to a Fly.

You harbinger of everything tormenting,
You horrid, little aggravating fly,
While I looked forward gladly to the summer
I forgot that you, provoking creature, would be by.

I raved about the coming of the flowers,
And tried to feel poetic 'bout the Spring:
But here you are with all your teasing powers,
And all my fancies into air take wing.

To-day I tried to sleep at early morn,
But you and all your brothers shun repose,
And while I chased "your sisters and your aunts,"
You, loudly buzzing, sat upon my nose!

In vain I lay upon the table sweets,
You lightly sip, your "weather eye" on me,
And with a cruel malice all your own,
You knock your youngest son into my tea.

I try to lie as still as any mouse,
But, gloating in your power of torture rare,
You loudly sing your scorn of helpless man,
And take a walk with friends amid my hair.

I'm weak with flying at you round the room,
Ah, now! once more you're standing on my nose.
Just for one blow! Ah! there you're off again,
And half your harem nibbling at my toes!

There is no way to catch you that I know,
And lo! a theme to make even angels weep,
That I, in all my pride of strength and power,
Can't smother you and get a little sleep!

—New York Sun.

Lloyd's Luck.

When Lloyd's father told him that he had sold the farm, and that they were going to spend the summer camping out, Lloyd was very much delighted. His father and two other men had formed a partnership and were going to spend the summer in mining. They bought their provisions and mining outfit, and loading them in two wagons, they started. Lloyd's father and mother, with Lloyd and the provisions, were in one wagon; in the other were the two partners, with the picks, shovels, gold pans and the lumber for sluice boxes and rockers.

When, after several days' traveling, they arrived at the place where they intended to mine, the men cut down some trees, and in the course of a week built a log cabin. They had planned to work a "placer claim." It had been mined long ago, when gold was first discovered in California, but not very thoroughly. Lloyd liked to watch the men shovel the dirt into the sluice boxes and see the swift muddy water wash the rocks and coarse gravel out at the other end. They found the "dirt" was not very rich, and some days when they made a "clean up" they would find a very small quantity of gold dust in their riffles, less than half an ounce for a whole day's run.

Lloyd soon grew tired of watching the men work; he wished to do some mining all by himself; so his father, one evening after his own work, made him a little rocker out of the thin light boards of a dry goods box, and every day Lloyd would play he was a miner. Finally he carried his rocker up the stream nearly a quarter of a mile above where his father was working.

One of the men had called to him, "Hello, rocker, where are you going with that boy?"

Lloyd looked back and said, "We're going up the creek to find a claim of our own."

"Well, go ahead, and good luck to you!" they called after him.

Lloyd did not find much "color" along the creek, so he carried his rocker up a dry gulch that led into that stream.

Next day Lloyd dug till his hands were blistered and his back ached. He had been digging a hole where the ground was wet and soggy, so that he could get water to rock with. When he went back next morning he found that the hole was nearly full of muddy water that had seeped in from the spring. There was enough water to run the rocker for some time.

In one place at the lowest part of the gulch, near where his rocker was set, a rock cropped out a few inches. He did not know it at the time, but he had gone to the best place possible. A few inches below the surface he struck bedrock. It was quite irregular. He took his shovel and scraped the rock, piling the gravel beside his rocker. He threw a shovelful of dirt into the hopper, dipped up water and started to rock. When the dirt and gravel had washed through the hopper, he lifted it off to throw away the coarser gravel and rocks that would not pass through the holes in the sheet iron bottom of the hopper. As he did so he noticed a pretty rock he had thrown out. It was white, with yellow streaks in it. He found several more pieces, and put them in his pocket to ask his father what they were. He did not know that he had found some very rich gold quartz, but when he lifted up the hopper and saw a line of yellow along both of the riffles on the upper apron, he was enough of a miner to know that he had found rich pay dirt. The gold dust was coarse, some of it being as large as grains of rice. He went to the camp and got a gold pan so that he could clean up the rocker.

That night, when the men came to supper, Lloyd's mother said to her husband:

"Well, how did you do to-day? Did you have a good clean-up?

Lloyd's father sighed and said: "No, little woman; I am sorry to say that our pay dirt is running out. I am afraid we made a mistake in not sticking to the farm.

"Well, Lloyd, how did your clean-up turn out?" his father asked.

Lloyd brought out the gold pan and the pretty rocks, and handed them to his father. When the men caught sight of the coarse gold dust and nuggets in the pan, and the piece of rich gold quartz, you should have heard them shout.

"Where did you find that?" they excitedly asked. "Come and show us." And without waiting for supper they started for the place. Lloyd could hardly keep up with them, they walked so fast.

When they got to his rocker Lloyd showed them where he had shoveled up his dirt. Taking his pick, his father struck the rock that cropped up in the bottom of the gulch. He picked up a fragment that was broken off and looked at it. It was quartz heavily veined with gold. He handed it to his partners, and caught Lloyd up, tossed him in the air, and said:

"Our fortune is made! You've found the ledge from which all the placer gold on the creek has come."

The men broke off several pieces of quartz and then covered up the outcropping ledge.

It was pretty late before any one went to sleep in camp that night. Next day one of the men went over to the nearest town with a wagon, to buy picks and shovels, fuse and blasting powder. They called the mine "Lloyd's Luck," though papa said it ought to be called "Lloyd's Pluck," because he had worked so hard. Several mining experts for big companies had assays made, and it proved a very valuable claim. Indeed, so valuable was it that in the course of a month Lloyd's father, who had all along felt that the life of a mining camp was too rough for his wife, sold out his share to his partners, and, with Lloyd and his mother, returned to their farm, which they were now able to keep up as it never had been before, and to send Lloyd to college as soon as he became old enough to enter.—Fred. Lockley, Jr., in St. Nicholas.

The Baby's Mouth.

Many mothers do not recognize the fact that a baby's teeth should be cleaned, not only as soon as they arrive, but even long before—as soon as the baby itself arrives, in fact. Many a little chubby face is kept scrupulously shining with cleanliness on the outside—but O dear! the poor little mouth! It is really much more important to keep the inside of a small child's mouth clean than the outside. A dirty little face may mar beauty, but it does not threaten health, and a neglected mouth does.

Young children, as soon as the first teeth appear, should be given little tooth brushes with very soft bristles, and should be taught to use them, and then watched to see that they always do use them. But as to infants, the toilet of the mouth must be performed for them, and should never be neglected. For this purpose a little wad of sterilized absorbent cotton should be used, and then thrown away, or rather burned. When the baby has its bath the mouth should, as a matter of routine, be washed very gently with a pledget of cotton wet in a solution of boracic acid, or any other mild disinfecting liquid. If the little gums are soft and spongy and bleeding, dabbing them with tincture of myrrh will help them.

The reason for all this care is the same reason that makes the careful adult use his tooth brush scrupulously after each meal—namely, that harmful germs constantly exist in the mouths of all of us, even the healthiest, and babies, although they have no teeth, are no exception to this rule. If their mouths are not kept clean, not only are the coming teeth jeopardized, but the child's general condition may be lowered by the constant presence in the mouth, and consequently the passage through the system, of health-injuring microbes.

In illness a small child's sufferings are often greatly aggravated by parching of the lips and tongue, and it is unable to tell what the trouble is. The mouths of these little patients should be constantly refreshed and kept moist. This can be done with glycerine and water, and in many cases where constant drinking is forbidden by the physician much suffering can be avoided by keeping the mouth moist and comfortable by some such simple means. Great gentleness must be observed in this toilet of the mouth, for the baby's mucous membrane is very tender and easily abraded, and if it is injured ulceration may follow.—Youth's Companion.

Inhaling Tobacco Smoke.

On the labels of some boxes of cigarettes at present being sold to the public is a statement to the effect that the cigarettes are made of the purest tobacco and paper obtainable, and that, therefore, the smoke from them may be inhaled safely and without irritating the respiratory passages. We do not hesitate to say that such a statement is highly mischievous, and that the practice of inhaling smoke into the lungs is attended with considerable risk to the health of the smoker.

It is to be feared that the cigarette is responsible largely for the prevalence of this objectionable habit of inhaling tobacco smoke. The pipe or cigar smoker is, as a rule, not addicted to it because probably the smoke is too strong or too irritating, but the fact that the smoke of a cigarette may be unirritating does not minimize the evil effect of drawing the smoke into the lungs, for by this method the absorption of the poisonous constituents of tobacco smoke (and all tobacco smoke is more or less poisonous) is very rapid, these entering into the circulatory system by way of the pulmonary capillaries. Even in the mouth and nasal passages there is some amount of absorption, but this is trifling compared with that which takes place in the lungs. The practice of inhaling tobacco smoke is, therefore, strongly to be discountenanced, and venders of cigarettes should refrain from printing on the boxes mischievous statements such as that to which we have alluded.

There is no reason for believing that smoking tobacco in a rational way is productive of harm. On the contrary, it is the common experience that when moderately indulged in it serves to allay restlessness and irritability, but the sequel to the habit of inhalation may, indeed, be dire, the heart and nervous system being effected. Yet many cigarette smokers inhale the smoke into the lungs, as may be seen from the fact that very little of the smoke which they draw from the cigarette is afterwards ejected.—Lancet.

To Care for Furs.

Of the many who are fortunate enough to possess fur garments in some form or another, but few have any adequate idea of how to care for them. Yet good furs are so expensive and their fine appearance is so dependent on their proper treatment that it is worth every one's while to know how to maintain them at their best.

Hailing as they do from cold climates, furs are very susceptible to changes of temperature. They make their best appearance in cold, frosty days, and they should not be worn in wet weather. If, however, the wearer should be caught in the rain, she should on no account dry her fur coat, boa, hat, or muff before a fire, as this sends the moisture into the pelt, with bad results. The garment should be thoroughly shaken and hung in a fairly cool room till dry. Chinchilla is the most delicate of furs and the most susceptible to damp, so it should never be put on if the weather is threatening. Rain also spoils the curl of fine Persian lamb, but this will recover if dried as above directed.

To renovate fur that looks flattened or matted after much wear—notably fox—lay it on a board and beat it lightly for ten or fifteen minutes with a cane in each hand. Furs improve wonderfully under this treatment, a depressed-looking boa or stole emerging quite renovated in appearance.

Furs should not be allowed to get dirty, especially the part that rests against the back of the neck and hair, as the grime in turn leaves a black mark on the neck. If very dirty, the furs should be intrusted to a reliable cleaner, but they can be kept clean by occasional treatment with flour or bran heated in an oven. For ermine, the best cleanser is oxide of zinc. It can be had at any drug store, and if rubbed in with the hand, soon restores the pelt to whiteness. For dark furs, fig dust is a good cleanser, but it is rather difficult to procure in sufficient quantity. After the cleaning process the fur should be well shaken out of doors.

Furs should never be laid with other garments in a drawer. In default of a damp proof cold closet, they may be deposited in a roomy tin trunk, each article being lightly swathed in tissue paper. Chinchilla loses its color if much exposed to the light, so it should be enveloped in blue or black paper when put away. When the time comes for retiring winter garments into summer quarters, they will immediately benefit by confinement to a cold storage room. Most furriers of repute possess such a chamber. But if it is not practicable to dispose of them in this way, the tin trunk already mentioned will do very well. Moths can be kept away by dropping in a few pieces of carbon, which can be had from any oilman, but the unpleasant odor clings to the garments. A better plan is to consign all

furs to the cleaner's before packing; they may then be safely laid by in the manner mentioned.—Vogue.

Hints to Housekeepers.

An old housekeeper, who has been the victim in her day of almost every kind of accident that can happen to a housewife, says that whenever a kettle of jam or preserve is scorched, set it immediately in a pan of cold water to restore the flavor.

It is worth knowing for the fly days that are sure to come that a few drops of sassafras oil scattered about the house will keep the flies away as if by magic. This is said to be the secret of the flylessness of drug stores, where the soda fountain would otherwise attract flies by the thousand.

After cooking lima beans, take a few tablespoonfuls of them from the saucepan and mash them with a spoon. Add half a tablespoonful of butter, a little cream, and a quarter of a cupful of the water the beans were boiled in. Drain all the water off the beans, and pour in the sauce. Stir, and let it boil up once before serving.

To preserve light colors in shirt waists that are built of wash goods, the amateur laundress is advised to soak the waists in a gallon of cold water to which has been added a handful of salt. Allow them to soak for fifteen or twenty minutes, then hang up in the shade to dry. When once dry, colored cotton goods can be washed without fading, provided a little care is used.

Many good housekeepers have given up scouring their silver with powders and patent preparations and have taken to boiling it in a solution of common washing soda. A piece of soda the size of an egg is thrown into a gallon of water. The articles to be cleaned are thrown in when the water is at boiling point, and kept in the water for four or five minutes, then rinsed off in clear, hot water and polished with a chamois or soft cloth. Surely none need use tarnished silver when so simple a method of cleansing is within reach.

Tomatoes are so good as a salad that it seems too bad to ever cook them. Still fried tomatoes are delicious, and sometimes may be made to serve in place of a meat dish at luncheon. Slice the tomatoes, without peeling, into rather thick slices. If the vegetable is overripe it will fall to pieces in the pan, so be sure that the slices are firm. Dip them in crumbs, brush with oil and again dip in breadcrumbs. Fry in a little butter, and just before taking out pour into the pan half a cupful of sweet cream. Stir this quickly and pour the sauce over the tomatoes. It will be thick like a cream sauce. Season with salt and red pepper.

The old-fashioned drinks, the formula for which has been handed down from one generation to another, have a charm of their own. Among these are the various "shrubs" or "vinegars," which cannot be bought at the grocers, but must be made at home. One of the chief of these is raspberry shrub. Take twelve quarts of blackcap raspberries (the red ones will not answer), and pour over them a gallon of good cider vinegar. Let them stand in a cool place for twenty-four hours, then mash and strain through a coarse cheesecloth bag. Measure the juice, and allow a pound of sugar to each pint of juice. Let the sugar melt in the liquid, then boil for twenty minutes. Bottle and keep in dark, cool place. To prepare it as a beverage, fill a glass quarter full of finely chipped ice, put in two tablespoonfuls of the shrub, and fill up the glass with ice water.

Hemming Table Linen.

Some one has made such a clever little discovery anent that troublesome work of hemming table linen!

Hand-hemmed it must be, of course; but, thanks to this bright idea, the machine can still be made to do the greater part of the work, says the Philadelphia North American.

Here is the suggestion:

Have your tablecloth ready, as if to sew by machine, and turn the hem all along with the hemmer, but without threading the needle. This turning in of the hem is, every one knows, the most laborious part of the task.

With this accomplished, it is a comparatively easy matter to complete the sewing by hand.

Domestic Hints.

Puree of Green Peas.—Boil a quart of green, fresh peas till very tender, seasoning with salt and pepper. Press through a sieve and return to the fire, with a pint and a half of milk and a pint of cream. Add more salt if needed, and serve with squares of dried bread.

Apple Tapioca.—One-half pound tapioca soaked over night in cold water. Make a quarter of a peck of apples into nice, rich, sweet sauce. Put soaked tapioca in the sauce and let cook slowly until the tapioca is dissolved. Flavor with lemon or orange peel; sweeten to taste. Serve with cream sauce.

Sponge Cake.—One pound of sugar, one of flour, ten eggs. Stir yolks of eggs and sugar till perfectly light. Beat whites of eggs and add them with flour after beating together lightly. Flavor with lemon. Three teaspoonfuls of baking powder will add to its lightness. Bake in a moderate oven.

Citron Cheesecakes.—Boil near a quart of cream; when cold, add the yolks of four eggs, well beaten; boil this to a curd; blanch and beat two ounces of almonds, about half a dozen bitter; beat them with a little rosewater; put all together, with three or four Naples biscuits, some citron shredded fine; sugar to taste; puff paste.

Pineapple Filling for Layer Cake.—Pare a small pineapple, chop very fine and sprinkle with sugar. Let stand about four hours, then drain off the juice. Whisk the whites of two eggs to a very stiff froth with one small cupful of sugar, and add one cupful of the chopped pineapple. Place between the layers of the cake. For the frosting take one-half cupful of the juice drained from the pineapple and stir in one cupful of icing sugar.

Pineapple Melange.—Take one very nice-looking pineapple, with a tuft of green foliage if possible. The top is neatly sliced off and laid away. The inside of the fruit is picked out with a silver fork until nothing remains but the shell. The shredded pineapple is mixed with one-half the quantity of crushed strawberries and one-eighth of grated macaroons. Sugar to taste before putting all back in the pineapple shell and replacing top. Chill thoroughly before serving.

Graham Corn Gems.—Good graham and cornmeal gems are made with sour milk. To make the cornmeal gems, mix half a cupful of sugar, one egg and one tablespoonful of butter together. Add two cups of sour milk in which a teaspoonful of soda has been dissolved. Sift two cups of cornmeal and one of flour and stir the other ingredients into it. Bake in a quick oven. Graham gems are excellent made in the same way, using in place of the cornmeal and flour about the same amount of graham meal, or enough to stiffen.

For Shiny Linen.

To the Editor:—I want to know how to starch and iron my collars and cuffs so that they will have that mildly glossy appearance which they always have when handled by a French laundry.

Is the process a secret known only to professional laundry people, or is it one that you could fairly devote a paragraph to?

I believe that Thomas Carlyle contemptuously refers to the wife of Marat as a washerwoman, and my husband sometimes jokingly calls me his washerwoman, and my inability to laundry his inen a la Francais is a thorn in my side. Farmer's Wife.

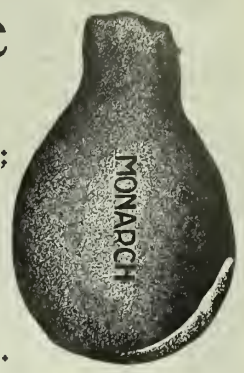
Santa Barbara.

There is no secret about the process. Perhaps some reader will supply the information asked for.

THE BEST!

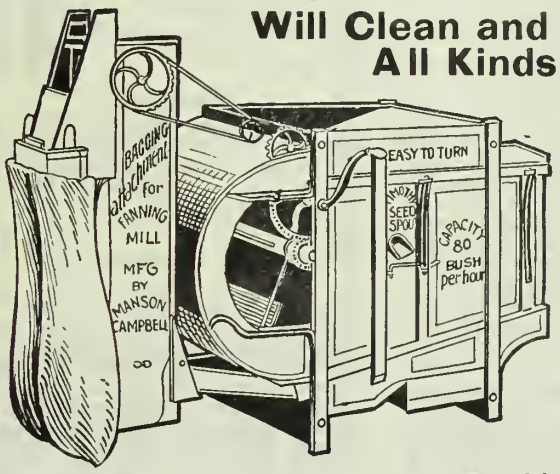


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DEWEY, STRONG & CO., Patent Agents, San Francisco, Cal., Washington, D. C.

The Markets.

San Francisco Produce Report.

San Francisco, August 17, 1904.

CHICAGO WHEAT FUTURES.

Wheat futures in Chicago were as follows for the week named, price being for No. 2 Red per bushel:

	Sept.	Dec.
Wednesday	$1 02 @1 00¼	$1 00¾@ 99¼
Thursday	99¾@1 04½	98¾@1 03⅝
Friday	1 04⅛@1 01⅝	1 03⅛@1 00
Saturday	1 02¼@1 00	1 01¼@ 99
Monday	1 00⅛@1 03	99⅝@1 02⅛
Tuesday	1 03 @1 05¼	1 02⅝@1 05⅛

CHICAGO CORN FUTURES.

Prices of futures on No. 2 corn per bushel in Chicago were as follows for the week:

	Sept.	Dec.
Wednesday	54¼@52⅞	50¾@49¼
Thursday	53 @51⅜	49⅞@51⅝
Friday	51⅝@53⅜	51¾@50½
Saturday	53¾@53	51½@50⅛
Monday	53 @54½	50½@52⅝
Tuesday	53⅝@54½	52⅝@53½

SAN FRANCISCO WHEAT FUTURES.

The range of values in San Francisco for No. 1 White wheat per cental was as follows:

	Dec., 1904.	May, 1905.
Thursday	$1 45¾@1 47⅜	$——@——
Friday	1 46⅜@1 44½	——@——
Saturday	1 44¾@1 45¼	——@——
Monday	1 46½@1 45⅝	——@——
Tuesday	1 47 @1 49	——@——
Wednesday	1 49½@1 51⅝	——@——

Wheat.

While the local market has shown a generally firm tone, there has been no great movement in actual wheat in this center. The deadlock between exporters and ship owners continues, although the difference between bids and asking rates is not very great. There would probably be considerable chartering if ships were obtainable at about 20 shillings for usual voyage to Europe, or even at a moderate advance on this figure for mixed cargoes, but the combine is holding out for 22s 6d per ton for straight wheat, and 23s 9d for wheat and barley cargoes. There is little probability of many straight wheat cargoes being forwarded from this point the current season, no matter if freight rates become quite favorable for the shipping interest, as the wheat is not in the State to admit of a heavy export business. There will be a tolerably heavy surplus in Oregon and Washington, but the most of this wheat will be forwarded outward direct. Several ships have been lately taken for wheat loading at Puget Sound ports, and at figures corresponding with prices asked here. The most urgent inquiry in the local market at present is for desirable milling wheat, which is difficult to obtain in anything like wholesale quantity, even at highor prices than warranted as quotations.

California Milling	$1 50	@1 60
Cal. No. 1 shipping, alongside	1 40	@1 45
Oregon Club	1 37½	@1 45

PRICES OF FUTURES.

During past week the range on options was:
December, 1904, delivery, $1.44¾@1.51⅝.
May, 1905, delivery, $——@——.
Wednesday, at the forenoon session of Exchange, December, 1904, wheat sold at $1.49½@1.51⅝; May, 1905, $——@——.

Ocean freights and prices for wheat, as compared with a year ago, are as follows:

	1903-04.	1904-05.
Liv. quotations	6s8d @6s8¼d	-s-d@-s-d
Freight rates	15¾@16⅜s	22½@—s
Local market	$1 47½@1 50	$1 40@1 45

Flour.

There is a moderate movomont to Central and South America, but shipments to the Orient are comparatively light, with prospects of so continuing as long as the war is on between Russia and Japan. Local trade is of fair proportions, and at generally unchanged figures, although tendency on best grades is to more firmness.

Superfine, lower grades	$3 15	@3 25
Superfine, good to choice	3 25	@3 50
Country grades, extras	4 00	@4 30
Choice and extra choice	4 30	@4 60
Fancy brands, jobbing	4 50	@5 00
Oregon, Bakers' extra	3 50	@4 00
Washington, Bakers' extra	3 50	@4 15

Barley.

Values in the spot or open market remained at much the same quotable range as during preceding week, but prices for December option, No. 1 feed, receded nearly 2c. Later most of this loss was recovered. In consequence of the lower figuros for December options, there was an easier tone on the spot offerings, moro especially for feed qualities, but free purchases wore not possible at any marked decline. For high grade barley the market could not be said to show any weakness. Buyers are anxious to secure heavy weight, unbroken, bright and clean barley, and do not find much of this sort offering.

Feed, No. 1 to choice	$1 07½	@1 10
Feed, fair to good	1 03¾	@1 06¼
Brewing, No. 1 to choice	1 10	@1 17½
Chevalier, No. 1 to choice	1 20	@1 30
Chevalier, common to fair	1 00	@1 10

Oats.

There are no heavy quantities offering of any description. Market in the main shows firmness, and especially are current values for choice to select being well sustained. There is a good inquiry for high grade seed oats, and stock of this sort decidedly light.

White oats, fancy feed, old	$1 35	@1 40
White, good to choice, new	1 30	@1 35
White, poor to fair	1 20	@1 27½
Milling	1 30	@1 35
Black oats	1 20	@1 50
Red, fair to choice	1 20	@1 40

Corn.

Stocks are principally Eastern product, Large Yellow and White, straight and mixed. Prices remain at a comparatively high range, and not much prospect of being very soon materially lower. Small Yellow is in entirely too limited supply to to admit of any noteworthy wholesale trading.

Large White, good to choice	$1 47½	@1 55
Large Yellow	1 47½	@1 55
Small Yellow	1 60	@1 65
Egyptian White	1 30	@1 35
Egyptian Brown	1 22½	@1 27½
Eastern, in bulk	1 37½	@1 45

Rye.

Desirable qualities are being very steadily held, but demand is not particularly brisk at full curront figures.

Good to choice, new	$1 27½	@1 32½

Buckwheat.

Market is bare of supplies. Choice would readily command $2.25 or more from wholesale operators.

Beans.

Business in the bean market is not very brisk at present, but values for most kinds are ruling decidedly steady, it being tho exception where holders are showing any undue anxiety to realize. Stocks in this center are largely Whites and Bayos. Supplies of Pinks are of light compass and mostly in few hands. Reds are in still smaller supply than Pinks. Holders of Limas are quite firm in their views.

Pea, fair to good, 100 lbs	$2 90	@3 15
Small White, good to choice	2 90	@3 15
Large White	2 40	@2 50
Pinks	3 40	@3 60
Bayos, good to choice	2 40	@2 55
Red Kidneys	4 50	@5 00
Reds	4 25	@4 75
Limas, good to choice	3 60	@3 75
Black-eye Beans	2 30	@2 40

Dried Peas.

Market is fairly supplied with Green Peas through recent arrivals from Salinas and Merced. There are no Niles Peas offering. Demand is good for Garbanzos and few obtainable.

Green Peas, California	2 00	@2 25
Garbanzos, Large	3 25	@3 50
Garbanzos, Small	3 00	@3 25

Hops.

Growers in this State are now either busy picking and curing, or are getting ready for the hop harvest, which will soon be in full blast in all sections. Naturally there is little time to talk business. Growers who have not already contracted are not inclined to enter into negotiations for forward deliveries. New to arrive are quoted at 22@25c., but valuos are largely nominal for the time being, in the absence of any noteworthy transactions. Spot stocks of 1903 hops are light and there is not much doing in them at this date.

California, good to choice, 1903 crop	25	@27½

Wool.

Market is firm, and demand active, most of the purchasing being done in the interior, in numerous instances the wool being contracted for before it is off the sheep's back. Quotable values for Fall clip havo not yet been established here, but that they will rule appreciably higher than last season is generally conceded. The steamer Newport, sailing on 13th inst., carried 156,780 lbs. grease wool for New York.

SPRING.

Northern, free	22	@—
Northern, defectlve	17	@20
Middle Counties, free	18	@21
Middle Counties, defective	15	@17
Southern, 12 months	—	@—
Southern, 7 months	—	@—
Spring Lamb, Northern	15	@17
Spring Lamb, Southern	12	@14
Oregon, good to choice	20	@22
Nevada	15	@20

Hay and Straw.

Arrivals of hay have been of quite liberal proportions the current week, and the market as a whole has inclined against the selling interest, especially for other than most select qualities. Quotable values continued at practically the same range as last noted. Straw was in only moderate supply and demand fair at unchanged figures.

Wheat, good to choice	$12 00	@ 13 00
Wheat and Oat	8 50	@ 11 00
Tame Oat, fair to choice	8 50	@ 11 00
Wild Oat	7 00	@ 8 50
Barley	7 00	@ 9 00
Alfalfa	9 00	@ 11 00
Compressed	10 00	@ 13 00
Straw, ₱ bale	40	@ 65

Millstuffs.

Bran and Middlings are being held about as last quoted, but buyers are not taking hold freely at full figures. Market for Rolled Barley ruled steady. Milled Corn is in light stock and firmly held.

Bran, ₱ ton	$20 50	@ 21 50
Middlings	25 00	@ 28 00
Shorts, Oregon	21 50	@ 22 50
Barley, Rolled	22 50	@ 23 50
Cornmeal	32 00	@ 33 00
Cracked Corn	32 50	@ 33 50
Oilcake Meal	31 50	@ 33 00

Seeds.

Not much Mustard Seed offoring, and will not be of this year's product, the crop being very light. Market for good to choice of both varieties is firm, and no trouble in securing buyers. Alfalfa is not meeting with any noteworthy inquiry at present, but stocks are of small proportions.

Alfalfa, Cal., good to choice	$14 00	@16 00
Flax	1 75	@ 2 35
Mustard, Yellow	3 25	@ 3 50
Mustard, Trieste	3 25	@ 4 50
		Per lb.
Canary	7	@—
Rape	1¾	@ 2½
Hemp	3½	@—
Timothy	5	@ 5½

Honey.

The first noteworthy shipment by sea for somo time was made the current week, a steamer taking 200 cases Extracted for Germany. Market for amber grades is without special firmness, but tendency on water-white honey is to better average prices than have been prevailing the past season.

Extracted, White Liquid	5½	@ 6
Extracted, Light Amber	5	@ 5½
Extracted, Amber	4	@ 4½
Extracted, Dark Amber	3½	@ 3¾
White Comb, 1-frames	12½	@13
Amber Comb	9	@11

Beeswax.

There are shipping orders on market at present values for greater quantities than are obtainable.

Good to choice, light ₱ lb	28	@30
Dark	26	@27½

Live Stock and Meats.

Values for Beef remain quotably about as last noted, but demand is not active, and for ordinary qualities the market is devoid of firmness. Choice Small Veal is not in excessive supply. For Largo Veal there is very little inquiry. Market for Mutton and Lamb is ruling quiet, with Lamb quotably lower ½c. Receipts of Hogs have been lately on the incroase, and tendency of the market has been to slightly lower values, especially for other than choice fat stock.

Allowing for the shrinkage of about 50%, which is exacted in buying cattle on the hoof, live cattle command as much or more per pound than dressed beef, the shrinkage exacted being the slaughterers' profit.

The following quotations for beef and mutton are based on prices realized by slaughterers from wholesale dealers:

Beef, 1st quality, dressed, net ₱ lb	5½	@ 6½
Beef, 2nd quality	4½	@ 5½
Beef, 3rd quality	4	@ 5
Mutton—ewes, 6½@7c; wethers	7	@ 7½
Hogs, hard grain, 140 to 200 lbs	4¾	@—
Hogs, large, hard, over 200 pounds	4⅜	@ 4⅝
Hogs, small, fat	4¼	@ 4½
Veal, large, ₱ lb	5	@ 6
Veal, small, ₱ lb	8	@ 9
Lamb, spring, ₱ lb	8½	@ 9

Hides, Skins and Tallow.

Hides are in good request and market is firm at prevailing values. Market for Pelts is showing steadiness, with no lack of inquiry for desirable stock. Tallow market is quiet at unchanged prices.

Nothing but select hides, clean and trimmed will bring full figures. Culls of all kinds, either from grubs, cuts, hair slips, side brands or murrain, are not always readily placed at the lower figures.

	Sound.	Culls.
Heavy Steers, over 56 lbs	— @10	— @ 9
Medium Steers, 48 to 56 lbs	— @ 9	— @ 8
Light Steers, under 48 lbs	— @ 8½	— @ 8
Heavy Cow Hides, over 50 lbs	— @ 8½	— @ 8
Light Cow Hides, under 50 lbs	— @ 8½	— @ 8
Stags	— @ 6	— @ 5
Wet Salted Kip	— @ 9½	— @ 8½
Wet Salted Veal	— @10	— @ 9
Wet Salted Calf	— @11	— @10
Dry Hides	— @16	— @15
Dry Kip and Veal, 11 to 16 lbs	— @13	— @12
Dry Calf, under 4 lbs	— @18	— @16

Pelts, long wool, ₱ skin	1 00	@1 50
Pelts, medium, ₱ skin	70	@ 90
Pelts, short wool, ₱ skin	40	@ 65
Pelts, shearling, ₱ skin	15	@ 30
Horse Hides, salted, large prime, each	2 75	@——
Horse Hides, salted, medium	2 50	@——
Horse Hides, salted, small	2 00	@——
Horse Hides, dry, large	1 75	@——
Horse Hides, dry, medium	1 50	@——
Horse Hides, dry, small	1 00	@——
Tallow, good quality	4	@4½
Tallow, poorer grades	2½	@3½

Bags and Bagging.

Seldom if ever has this market been so slow at corresponding date of previous seasons. Grain Bags are receiving little attention, despite the low prices prevailing.

Bean Bags	$	4¾	@5
Fruit Sacks, cotton		6¾	@6¾
Fruit Sacks, jute, as to quality		5¾	@7
Grain Bags, Calcutta, 22x36, spot		5⅛	@5⅜
Grain Bags, San Quentin, ₱ 100	4 75		@—
Wool Sacks, 4-lb		32	@—
Wool Sacks, 3½-lb		30	@—

Poultry.

There was a surfeit of chicken, especially of small young and common old. In addition to tolorably free receipts of California poultry, four carloads of Eastern were put on the market within the week. Turkeys other than select young averaged lower than last quoted and demand was slow. Market for Ducks was fairly steady. Geese were in light receipt and choice were readily placed. Pigeon market was slow for old, but moderately firm for choice young.

Turkeys, Young, ₱ lb	$ 24	@	25
Turkeys, live gobblers, ₱ lb	15	@	17
Turkeys, live hens ₱ lb	15	@	17
Hens, California, ₱ dozen	4 00	@	4 50
Hens, large	4 50	@	5 00
Roosters, old	4 00	@	4 50
Roosters, young (full-grown)	5 50	@	6 00
Fryers	3 50	@	4 00
Broilers, large	2 50	@	3 00
Broilers, small to medium	2 00	@	2 50
Ducks, large, old, ₱ dozen	3 50	@	4 50
Ducks, large, young, ₱ dozen	4 50	@	5 50
Geese, ₱ pair	1 50	@	2 00
Goslings, ₱ pair	2 00	@	2 25
Pigeons, old, ₱ dozen	1 25	@	——
Pigeons, young	1 50	@	1 75

Butter.

Sales of select creamery wore made at 27c., but close buyers who did not insist on certain brands were able to obtain fully as fine butter for less money. The stiffer prices for fresh enabled the profitable unloading of cold storage holdings, which are decidedly heavy.

Creamery, extras, ₱ lb	26	@—
Creamery, firsts	24	@25
Creamery, seconds	22	@23
Dairy, select	24	@—
Dairy, firsts	23	@—
Dairy, seconds	19	@21
Mixed Store	13½	@14

Cheese.

While stocks of California cheese are not heavy, there is considerable Oregon product on the market, and this cheese is offering at concessions, holders being anxious to unload. Values on choico Young Americas are being well maintained.

California, fancy flat, new	9½	@10
California, good to choice	9	@ 9½
California, fair to good	8¼	@ 9
California, "Young Americas"	10	@11
Eastern	10	@13

Eggs.

Market is firm and higher, especially for strictly choice to select fresh, uniformly large and white, such being in light receipt. Fancy fresh were placed in a limited way at 30c. Good Eastern brought 22@23c. That thero will be further hardening of values for best fresh in the near future is altogether probable.

California, select, large, white and fresh	28	@30
California, select, irregular color & size	25	@27
California, good to choice store	20	@23
Eastern firsts	21	@23
Eastern seconds	18	@19

Vegetables.

Most kinds in season were in liberal stock, and the market as a whole presented an easy tone, especially for other than most select qualities. In quotable values there were no pronounced changes from figures of preceding week. Onions were in fairly liberal receipt, but demand for them was tolerably active.

Beans, Lima, ₱ lb	2	@	3
Beans, String, ₱ lb	1	@	2
Cabbage, choice garden, ₱ 100 lbs	1 00	@	1 25
Corn, Green, ₱ crate	65	@	1 25
Cucumbers, ₱ box	25	@	50
Egg Plant, ₱ box	35	@	60
Garlic, new, ₱ lb	3½	@	4½
Okra, Green, ₱ box	40	@	65
Onions, Yellow Danver, ₱ ctl	1 10	@	1 35
Peas, sweet garden, ₱ lb	2½	@	3½
Peppers, Green, ₱ box	30	@	60
Summer Squash, ₱ box	25	@	50
Tomatoes, River, box	40	@	60
Tomatoes, Bay, ₱ box	65	@	75

NOTE.—Large boxes are what are known to the trade as "pay boxes," which have to be returned or paid for. They are open top, with hand holes in the ends, and welgh when filled from 50@60 lbs gross. Small boxes are free boxes, about the same as the regular fruit box, weighing when full from 20 to 30 lbs. gross.

Potatoes.

Market for the general run of offerings of potatoes has been slow the greater part of the current week and lacking in firmness. A few of very superior quality and espccially desirable as to size sold to tolerably good advantago. Sweets were in increased receipt, mainly from Merced and Stockton, and market was easier, transfers in a regular way above 3c. per lb. being the exception.

Salinas Burbanks, ₱ cental	1 25	@	1 50
Potatoes, white, ₱ cental	65	@	1 10
Early Rose, ₱ cental	75	@	1 00
Garnet Chile	75	@	1 00
Sweet Potatoes, ₱ lb	2	@	3

Fresh Fruits.

For desirable qualities of most kinds of deciduous fruits the market was in fairly good shape for the selling interest. There was a glut of common stock, however, and for such the market was dull and weak. Fine Apples were not plentiful and for select Gravenstein up to $1.50 was asked. Green Bartlett Pears were in rather heavy supply, both in pay and free boxes. Canners bought No. 1 at $22.50@25 00 per ton, choice to select at $25.00@27.50, and only for very superior would they pay materially higher figures. No. 2 Bartletts were in excessive stock, some going to dryers at decidedly low prices. Peaches sold at a wide range, owing to great difference in quality. Fine mountain freestones were quotable up to 85c per small box, but the bulk of sales of valley freestones were within range of 40@65c. Crawfords in bulk were quotable at $30@35 per ton. Clingstone Peaches were scarce; choice to select were salable at decidedly stiff prices, being quotable at $40@60 per ton. Plums and Prunes sold at about same figures as preceding week, but other than most select were in more than ample supply for the current demand. Grapes were in fairly liberal receipt and market inclined in favor of consumers, although values for most desirable quali-

ties showed no pronounced declines. Melons of all kinds were plentiful and cheap, the weather not being sufficiently warm for them to sell freely. Berries of nearly all kinds arrived sparingly, and were mostly of rather ordinary quality; sales were in consequence mainly at a low range of values.

Apples, Gravenstein, ₱ 50-box	1 10	@	1 40
Apples, good to choice, 50-lb. bx	75	@	1 00
Blackberries, ₱ chest	1 50	@	3 50
Cantaloupes, ₱ crate	35	@	1 00
Crabapples, ₱ large box	1 00	@	1 25
Figs, Black, 2 layers	50	@	1 00
Figs, Black, ₱ drawer	40	@	50
Figs, White Smyrna, ₱ box	75	@	1 25
Grapes, Black, ₱ crate	50	@	85
Grapes, Muscat, ₱ crate	50	@	85
Grapes, Seedless, ₱ crate	50	@	75
Grapes, Tokay, ₱ crate	75	@	1 00
Huckleberries, ₱ lb	8	@	10
Nectarines, Red, ₱ box	75	@	1 00
Nectarines, White, ₱ box	50	@	75
Nutmeg Melons, ₱ box	25	@	40
Peaches, freestone, ₱ pay box	60	@	1 25
Peaches, freestone, ₱ free box	30	@	85
Peaches, Clingstone, ₱ free box	75	@	1 25
Pears, No. 1 Bartlett, ₱ 40-lb box	75	@	1 00
Pears, Bartlett, No. 2, ₱ box	25	@	40
Pears, Bartlett, No. 1, ₱ ton	22 50	@	25 00
Plums, Large, ₱ box	30	@	65
Plums, in bulk, ₱ ton	15 00	@	25 00
Prunes, ₱ box	30	@	65
Quinces, ₱ box	75	@	1 00
Raspberries, ₱ chest	5 00	@	10 00
Strawberries, large, ₱ chest	3 00	@	6 00
Watermelons, ₱ doz	75	@	2 50

Dried Fruits.

Market for most kinds of dried fruits is showing healthy condition. There is a fairly active demand for Apricots, Peaches and Pears, but purchasing is being done mainly in the interior, little opportunity being given offerings of above kinds to come forward on consignment to this center. The Apricot market is particularly firm, especially for high grade stock, quotable values being advanced, and holders in not a few instances refusing to sell at the improved figures. Apples are in light supply and choice are selling to fair advantage for immediate delivery, but buyers are as a rule anticipating an easier market later on. Peaches are in good request, and asking values are at a little higher range, with market quite firm for choice to fancy. Pears are being sought after at fully as good prices as previously quoted, the inquiry being mainly for the higher grades; that there will be any shortage of standard or common quality is not probable. Little doing in Figs here and market for this fruit shows no special firmness. Quotable values for Plums have not yet been clearly established. Prices for Prunes show no quotable improvement. A steamer this week took 90,654 lbs. Prunes for Germany. The steamer City of Puebla, sailing Aug. 13, carried 61,875 lbs. dried fruit for British Columbia, including 10,400 lbs. Prunes. 19,600 lbs. Apricots and 13,600 lbs. Peaches.

EVAPORATED OR BLEACHED.

Apples, 50-lb boxes, rings, pressed, good to choice	5¾@ 6¼
Apples, extra choice to fancy, 50-lb boxes	6½@ 7
Apricots, Moorpark	8 @11
Apricots, Royal, good to choice, ₱ lb	7½@ 8½
Apricots, Royal, fancy	9½@10½
Figs, 10-lb box, 1-lb cartons	50 @65
Nectarines, Red, ₱ lb	5 @—
Nectarines, White and Yellow	5½@ 6
Peaches, unpeeled, good to choice	5¾@ 6½
Peaches, unpeeled, fancy to extra fancy	7 @ 8
Pears, standard, ₱ lb	5½@ 6
Pears, choice to fancy	7 @10
Pears, extra fancy	10 @11
Plums, Black, pitted	4½@ 5½
Plums, Yellow, pitted	6 @ 7
Prunes, Silver, good to fancy	3 @ 5

Prunes, in bags, 4 sizes, 1¾@2c; 40-50s, 3½@3¾c; 50-60s, 3@3¼c; 60-70s, 2¼@2¾c; 70-80s, 2@2¼c; 80-90s, 1⅝@1⅞c; 90-100s, 1⅛@1⅜c; small, ⅝@1c.

COMMON SUN-DRIED.

Apples, sliced	3½@ 4½
Apples, quartered	3½@ 4½
Figs, White, in bulk	3 @ 3½
Figs, Black	2½@ 4

Raisins.

There is a moderate movement in last year's Raisins, and some contracting for forward deliveries of new crop, but at generally low figures. Following quotations are based on selling prices for new, October delivery, f. o. b. at packing points.

Standard Grades—	50-lb. cases, Per lb.
2-Crown Loose Muscatels	2¾c
3-Crown Loose Muscatels	3¼c
4-Crown Loose Muscatels	4 c
Seedless Loose Muscatels	2½c
Seedless Sultanas, Unbleached	3½c
Seedless Thompson's, Unbleached	4½c

SEEDED.

Fancy 16-oz. Cartons, ₱ lb	5¼c
Fancy 12-oz. Cartons, ₱ pkg	4¼c
Fancy Bulk Cartons, ₱ lb	5 c
Choice, 16-oz. Cartons, ₱ lb	4¾c
Choice, 12-oz. Cartons, ₱ pkg	3¾c
Choice, Bulk Cartons, ₱ lb	4½c

Citrus Fruits.

The little business doing in Oranges is at generally unchanged figures for Late Valencias. Demand for Lemons has not been very active the past week, but values have been maintained at same range as last quoted. Limes are in fair supply and demand light at previous prices.

Oranges, Valencias, ₱ box	1 50	@	2 75
Lemons, California, select, ₱ box	2 50	@	—
Lemons, California, good to choice	1 75	@	2 25
Lemons, California, fair to good	1 25	@	1 75
Limes, Mexican, ₱ box	4 00	@	4 50

Nuts.

Same strong tone previously noted continues to be experienced in the Almond market. Purchases have been made in the interior on the basis of 14c. for Nonpareils. The coming Walnut crop has been mostly placed, subject to prices to be fixed in a few weeks. Peanuts are in light stock and almost wholly imported product.

California Almonds, shelled	18 @22
California Almonds, paper shell	13 @14½
California Almonds, soft shell	10 @12½
California Almonds, hard shell	6 @ 7½
Peanuts, fair to prime	5 @ 5¼

Wine.

Not much doing in the wholesale wine market in this center. A lot of 6,000 gallons good Sonoma dry wine of 1903 vintage was offered the current week at 15c. per gallon, San Francisco delivery. Based on asking figures, dry wines of last vintage are quotable at 15@17c. Sweet wines of 1903 are held at 30c. per gallon at wineries. Prices for this year's grapes have not yet been established. The steamer Newport, sailing Aug. 13, carried 74,339 gallons and 2 cases wine, including 73,063 gallons for New York. Receipts of wine at San Francisco last week aggregated 331,750 gallons and for previous week were 256,175 gallons.

Produce Receipts.

Receipts and exports of leading cereals and other California products for the past week and for the season to date, as compared with the corresponding time the previous year, are as follows:

FOR THE WEEK.		Since July 1, 1904.	Same time last year.
Flour, ¼ sks	73,429	559,028	698,933
Wheat, ctls	46,124	188,239	252,630
Barley, ctls	91,345	349,256	700,357
Oats, ctls	19,609	101,766	131,609
Corn, ctls	1,710	10,119	9,205
Rye, ctls	974	7,041	8,930
Beans, sks	3,237	17,016	13,990
Potatoes, sks	30,022	132,047	138,542
Onions, sks	1,831	14,378	19,634
Hay, tons	5,515	29,284	31,855
Wool, bales	1,471	7,346	6,927
Hops, bales	1	218	1,607

EXPORTS BY SEA.

FOR THE WEEK.		Since July 1, 1904.	Same time last year.
Flour, ¼ sk	47,952	450,032	375,836
Wheat, ctls	8,181	21,789	78,564
Barley, ctls	13,091	106,657	413,359
Oats, ctls	634	2,333	4,376
Corn, ctls	668	1,733	2,708
Beans, sks	473	3,073	2,753
Hay, bales	5,181	20,119	23,699
Wool, lbs		475,715	882,461
Hops, lbs	230	5,185	50,468
Honey, cases		85	64
Potatoes, pkgs	2,050	9,917	11,356

New Patents.

DEWEY, STRONG & CO.'S SCIENTIFIC PRESS PATENT AGENCY, 330 Market St., S F., has official reports of the following U. S. patents issued to Pacific coast inventors:

FOR WEEK ENDING AUGUST 2, 1904.

766,485.—VEHICLE—J. E. Armstrong, Santa Cruz, Cal.
766,583.—BOILER—T. J. Barbour, S. F.
766,415.—WATCH WINDER—J. Bond, Fresno, Cal.
766,420.—FAUCET—E. J. Calley, S. F.
766,666.—RECORD MEDIUM—E. D. Casterline, Los Angeles, Cal.
766,595.—ORNAMENTAL DEVICE—L. B. Christopherson, San Jose, Cal.
766,670.—SHOVEL—T. Cox, Portland, Or.
766,599.—CANDLE HOLDER—E. W. Curtiss, Baker City, Or.
766,341.—GRAPHOPHONE—E Gilbert, Portland, Or.
766,689.—SASH FASTENER—W. Goodcell, San Bernardino, Cal.
766,694.—DIE LIFTER—E. B Hawkins, S. F.
766,247.—TOOTH BRUSH—C. Heilrath, Sacramento, Cal.
766,349.—FOLDING BED—S. J. Herrick, Seattle, Wash.
766,188.—BRIQUET—G. W. Hopp, Olympia, Wash.
766,624.—SOAP HOLDER—T. P. Jarvis, S. F.
766,700.—MOTH EXTERMINATOR—H. H. Kennedy, Goodyear's Bar, Cal.
766,764.—WATER SEAL TRAP—J. E. Keyt, S. F.
766,447.—RIFLE SIGHT—C. Kiessig, San Diego, Cal.
766,505.—CHILLI ROASTER—Knapp & Ortega, Los Angeles, Cal.
766,510.—CAN CLEANING MACHINE—W. Munn, S. F.
766,515.—ELEVATOR—E. C. Northrup, San Jose, Cal.
766,385.—STEP LADDER—O. Richardson, Applegate, Cal.
766,389.—HALFTONE SCREEN—A. G. Russell, Los Angeles, Cal.
766,395.—SPRING BOARD—C. W. Schilling, Portland, Or
766,400.—MANUFACTURE GAS AND COKE—J. C. H. Stut, Oakland, Cal.
766,553.—APPARATUS FOR GAS AND COKE—J. C H. Stut, Oakland, Cal.
766,554.—MANUFACTURING GAS—J. C. H. Stut, Oakland, Cal.
766,555.—APPARATUS FOR MAKING GAS AND COKE—J. C. H. Stut, Oakland, Cal.
766,780.—VEHICLE WHEEL—H. H. Taylor, San Jose, Cal.
766,782.—NUT LOCK—E. Wacker, Stockton, Cal.
766,475.—GAS MACHINE—R. H. Walters, Los Angeles, Cal.
766,208.—IRONING BOARD—C. H. Williams, Fowler, Cal.
766,565.—FISHING GEAR—A. W. Wilson, S. F.
766,786.—TYPE CLEANER—A. M. Wing, Spokane, Wash.
766,788.—ARC LAMP—O. N. Wiswell, Snoqualmie Falls, Wash.

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NAPA, CALIFORNIA.

Bright's Disease and Diabetes News.

San Francisco, Jan. 16, 1904.

To the women of California:

Some of you have loved ones stricken with Bright's Disease or Diabetes. Let me give you hope. I can speak because I know. I was stricken with Diabetes myself. Only Diabetics can understand the tortures—the hopelessness. I went to the Women's Hospital (one of our best). They told me I was incurable. I grew worse (sugar was 11 per cent) and went to the Cooper Medical College for examination. Same verdict — incurable. Thoroughly discouraged I went home to die. A Mrs. Clark then living at 1013 Larkin street called to tell me there was a cure and where to get it. The third week the dreadful thirst diminished. I began to sleep better and in a year I was perfectly well.

I have a large boarding house on the corner of Powell and Sutter. One of the boarders is Wm. White, formerly Deputy City Assessor. He had to give up his position due to Bright's Disease—had been in both St. Luke's Hospita and the Waldeck Sanitarium without result when I learned what the trouble was and told him he could get well. He was swollen with dropsy, albumen was heavy, heart was involved and he felt sure he could not recover. In a month he began to mend and is now perfectly well. To the women of America I want to say that Chronic Bright's Disease and Diabetes are positively curable. Sincerely,

Mrs. Katherine Matthewson.

The above is strictly true.

WILLIAM WHITE.

The above refers to the newly discovered Fulton Compounds, the first cures the world has ever seen for Bright's Disease and Diabetes. Send for pamphlet to Jno. J. Fulton Co., 407 Washington street, San Francisco.

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Knotty Problems.

Every one whose duties require him to handle ropes is interested in the various methods of making quickly knots for the varied purposes for which ropes are used. The accompanying engravings illustrate better than can be described the methods of making splices, hitches and numerous kinds of knots. The illustrations are from an interesting little pamphlet issued by the Edward Christman Co. of Massillon, Ohio, on prospecting for coal, oil and other minerals by means of drilling. From this little work is taken also the description of the various knots, etc.

Any one can tie a knot, but to tie a knot that will not jam and can be easily and quickly untied is the secret of all knot tying. A great amount of rope and cordage is destroyed by not being properly tied.

In joining two ropes together it is necessary to have the rope as strong at the splice as any other part. If it is used for hoisting, it should be of no larger diameter than the original size of the rope.

Splices can be made very quickly, and where a strong, quick splice is desired, it can be done by unwinding the ends of the rope and by simply braiding the ends together. You have a very simple and strong splice, but it is thicker than the original diameter of the rope.

A very strong and serviceable splice can be made by unwinding one strand for several feet and laying the rope together, winding one strand into the rope as the other is unwound.

After it is in place, unwind the two remaining strands following the one which is wound in the opposite direction from the one first laid in.

Thus you have two strands laid in opposite directions and ready to tuck. This can be done by crossing one end over the other and tucking the end under the strand or by drawing the ends in a knot and tucking them under the strands as before; thus we have a very strong splice, and, if the ends are properly tucked in, it will be no larger than the original diameter of the rope, and can be used over pulleys or where it is necessary that the splice be no larger than the original diameter of the rope.

Two ropes can be joined by a square or reef knot. It will hold tight and not jam unless with a small size rope.

Another safe way to join two ropes is a plain bend or a double bend; this knot can be untied very easily and is stronger than any part of the rope.

A bowline is very useful where it is desirable to have a loop at the end of the rope that will not slip.

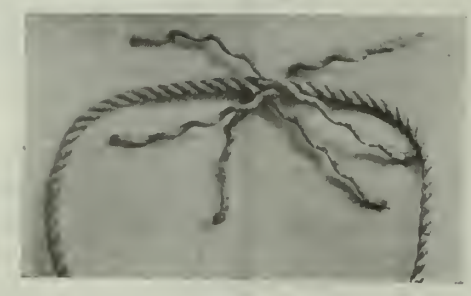
Another form of bowline which is sometimes used is made by taking the end of the rope through the opposite way.

The only safe slip knot is the running bowline, which will tighten and not bind the rope.

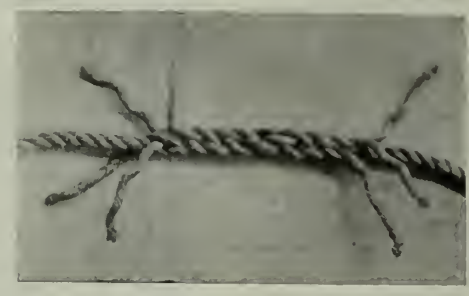
A safe knot is the bowline in the bight. It is a double bowline and makes a very strong hitch in the



One way to join two ropes.



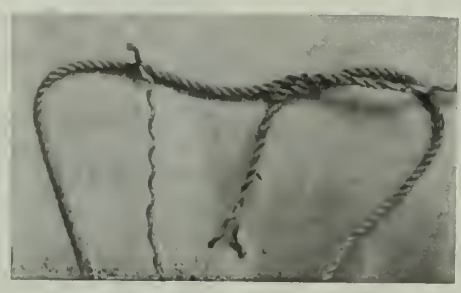
Ends unwound and laid together.



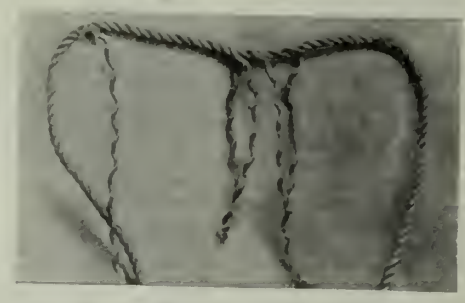
A very simple strong splice.



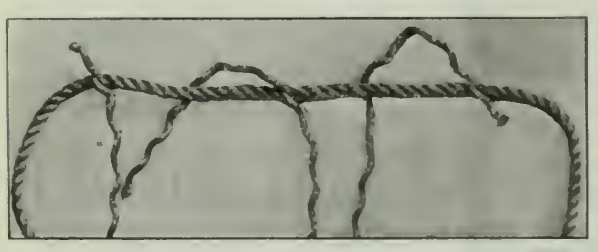
Rope laid together ready to weave in the strands.



One strand wound into place.



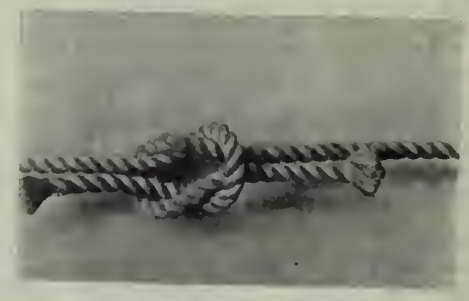
Unwind strand to the right and follow with another strand.



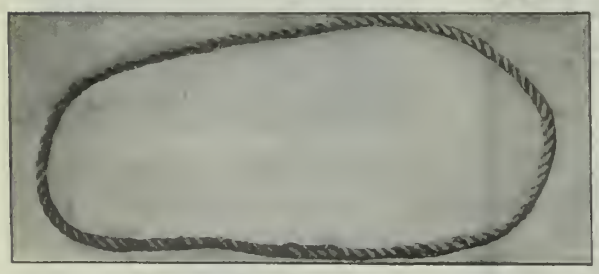
Strands laid in ready to fasten.



Two ways of fastening the ends.



Square or reef knot.



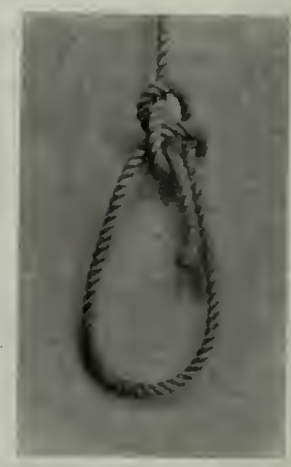
Both ends spliced together, forming a sling.



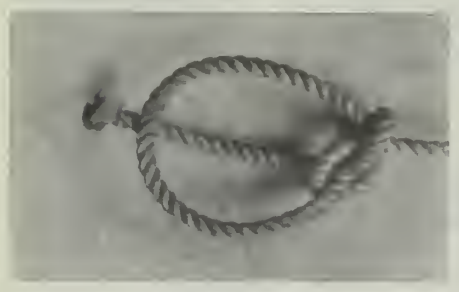
Plain bend.



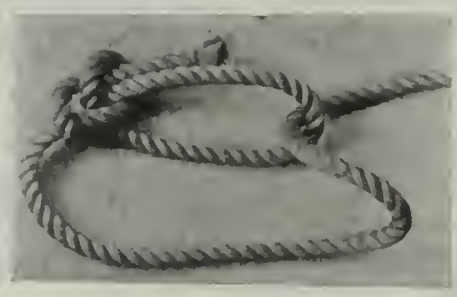
Double bend.



Bowline.



Bowline.



Running bowline.



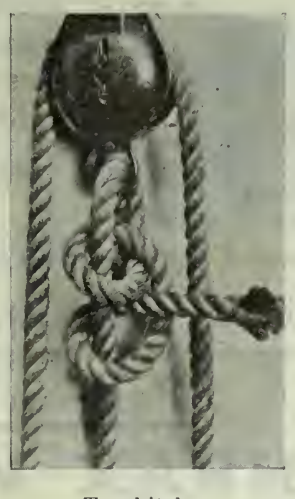
Bowline in the bight.

middle of a rope. A good way to fasten a rope to a becket in a pulley or around a beam is two hitches, which can be strengthened by taking a round turn also. There is a difference of opinion in regard to tying these hitches, but either is very strong.

A good way to fasten a rope to a becket or hook, or where it is not necessary to remove it, is by a half splice, which makes a neat and strong way to securely fasten the rope. By unwinding the rope for several turns and starting two strands through, bringing them out between different strands on the opposite side, you have the splice started, which is easy to complete, and, by trimming the ends, they can be tucked under the strands, making it tapered to the end.



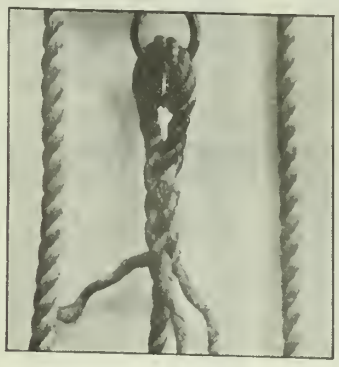
Two hitches.



Two hitches.



To start a half splice.



Half splice properly started.



Half splice, to fasten a rope to becket or timber.

There are a great many hitches that are useful and effective when used for the purpose for which they are made.

A clove hitch will be found serviceable for holding the top of a post or beam in a perpendicular position. It will bear the strain on either side of the knot without slipping; thus a long rope can be used for two guy lines.

An effective hitch for hoisting or lowering timber in a mine is the timber hitch. This is simple, yet effective, and, when used in connection with a half hitch, can be used to keep a piece of pipe or timber in a perpendicular position. For safety it is well to make two half hitches a yard or more apart.



Clove hitch.



Timber hitch.



Timber hitch combined with half hitch.

A backwall hitch is made by a twist of rope, which secures one object to another, and can be also safely made with a chain.

Another effective hitch can be made, which is more complex but useful, for a hook that is strained or is much rounded. A cat's paw is famous for its great strength. It is simply an endless rope, and is stronger than any other part of the rope. In the cut of the cat's paw the outer loop should be given one more half turn to the right.



Blackwall hitch.



Hitch for strained hook.

Another strong timber hitch, which is very serviceable but rarely used, is the halliard bend. This knot will not slip under the most severe strain, making it reliable at all times.



Cat's paw. This knot is not properly made. Note the rope on the right side of the cut.



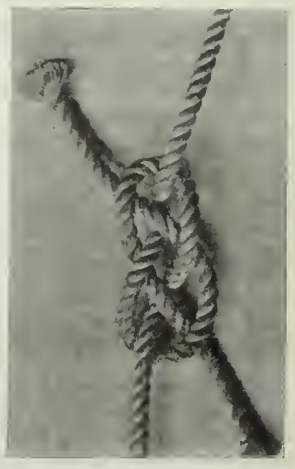
Halliard bend.



Clove hitch for sand pipe or boiler.



Rolling hitch.



Garrick bend.

A good way to fasten the end of a wire or manila rope to a hook, or at the top of a bailer, is to make a clove hitch and tie the loose end to the line. This also can be made stronger and more effective by putting in a half splice. It will wear a long time and will not draw tight.

A rolling hitch is very useful to fasten one rope to another where it is necessary to strengthen it.

A knot that is useful in tying two large ropes together is what is commonly called a garrick bend. It is rather hard to tie, but strong, especially for hawser-laid rope.

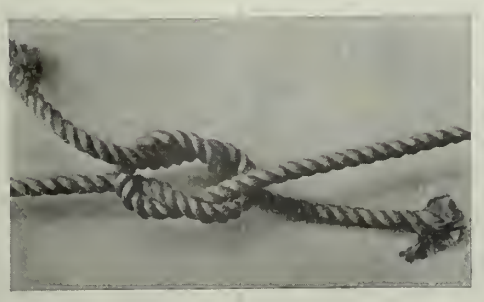
When a rope is too long it can be shortened by putting a sheep shank in the rope.

A knot that is easy to tie, liable to slip and hard to untie is the granny. This knot is tied by people of all ages, has caused no end of trouble in trying to untie it, but still is universally used. It comes natural to tie this knot and to untie it—well, cut the rope, that is the best way out of it.

Knot making is a very useful hobby and a liberal education may be very useful. Every one should learn to tie at least the simple knots, so they may be easily untied.



Sheep shank.



Granny.

Patrons of Husbandry.

President Harriman on Co-operation.

In the course of an address at the St. Louis Exposition, President E. H. Harriman of the Southern Pacific Co. made the following significant references to the influence of co-operation in industrial affairs. Mr. Harriman has a reputation for success in organizing great enterprises, and his exhortation toward co-operation should be instructive to those who are seeking light on this subject:

These exhibits represent, in concrete form, the artistic and industrial development of this country, and, in viewing them, one cannot but be impressed with the great improvement in the conditions respecting our material and physical welfare, and with the corresponding advancement in our intellectual and esthetic life.

Let us consider for a moment the processes by which this result has been reached. We have here collected the product of our artistic, scientific and industrial life. The raw materials of the farm, the vineyard, the mine and the forest have been transformed by the skilled artisan, the artist and the architect into the finished products before you. By the co-operation of all these resources, all these activities, all these workers, this result has been accomplished. From the felling of the trees in the forest. the tilling of the soil and the mining of the ore, through all the steps and processes required to produce from the raw material the complicated machine or the costly fabric. there must have been co-operation, and all incongruous elements and resistant forces must have been eliminated or overcome.

The chief factor, therefore, which has contributed to these results is the co-operation of all our people. The first law of all our civilization is the co-operation of all individuals to improve the conditions of life. By division of labor, each individual is assigned to or takes his special part in our social organization. This specialization of labor has become most minute. Not only is this true in scientific and philosophical research, and professional and business life, but in the simplest and earliest occupations of men, such as the tilling of the soil, the specialist is found bringing to the aid of industry expert and scientific knowledge.

In primeval life the individual, with his own hands, supplied almost all his needs, but now his personal effort contributes directly little, if anything, thereto. He satisfies his wants from many and diverse sources, giving in exchange the product of his special work.

Thus modern society has become a complicated organization or machine, which can only move when all its parts harmonize, and which is obstructed or breaks down when any of these refuses to co-operate or perform its special function.

It needs no argument to show that what we have accomplished was possible only through each individual doing his part—through dependence on others to do theirs—through co-operation. By remaining independent of others, man must have continued in his savage state. He has found it possible to improve his condition only by co-operating with others, and by becoming dependent upon others. Hence the first law of civilization—co-operation.

Sacramento Valley.

The Southern Pacific Company has just published an excellent pamphlet by Mr A. J. Wells, illustrative and descriptive of the Sacramento valley. The pictures will give the distant person an excellent idea of the varied characteristics of the valley, and the descriptions and connected data are very conscientiously prepared. The publication will help greatly in the development of this excellent part of the State.

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German View of the Commercial Effects of the Panama Canal.

From United States Consul-General Richard Guenther, Frankfort, Germany.

Commenting upon the effects of the Panama canal upon commerce, the Frankfurter Zeitung, one of the leading newspapers of Germany, says:

The great interoceanic route of navigation in the Western Hemisphere will be open to traffic in about ten years.

The question of how large the traffic of toll-paying vessels would be dominated the whole affair so long as the construction was to be on private account for the sake of profits. At present this question has been entirely relegated to the rear. Nobody thinks of remunerativeness any more. The fruits of the enterprise consist in indirect profits; they must be looked for in the military-political field and in the promotion of American commerce. In this lies the center of gravity of the situation.

Of what real advantage the sole control of the waterway in times of war will be to the United States will be seen only after a long time. The consequences for commercial navigation are more evident. If looked at with European eyes they appear small. What will the Panama canal offer us? To the whole of eastern Asia and to Australia, inclusive of New Zealand, the way via the Suez canal will remain much the nearer for Europe. From Hamburg to Hongkong, for instance, the distance is via Suez 10,542 nautical miles, via Panama 14,933: to Melbourne, via Suez 12,367, via Panama 13,198; to Yokohama, via Suez 12,531, via Panama 13,024. (The distances given by the United States Commissioner of Navigation are, from Hamburg to Hongkong, via Panama, 14,352 miles, allowing 50 miles for the distance from Colon to Panama; from Hamburg to Melbourne, 13,056; to Yokohama, 12,830). The Australian archipelago plays too unimportant a role to have the reduction of distance to it considered in this connection.

For Europe, therefore, there remains a saving only in traffic with the west coast of America. In this Germany, especially Hamburg, participates largely. In commerce with western South America, England occupies first place, and is followed by Germany, the United States, and France, in the order named. Of the imports of Chile, in 1902, for instance, England supplied $18,200,000 worth; Germany, $12,500,000 worth; the United States, $6,000,000 worth; France, $3,300,000 worth; all other countries, $10,000,000 worth. These figures, however, are of very slight importance with reference to the total commerce. In 1902 Hamburg imported from western South America goods to the value of $31,200,000; from Central America, $6,400,000; from Mexico, $4,200,000; from western North America, $5,600,000; a total of $47,600,000. This in round numbers amounts to 9% of the transoceanic imports of Hamburg. Bremen hardly participates in this commerce.

The exports were far less, viz.: To western South America, $11,500,000; to Central America, $2,000,000; to Mexico, $7,300,000; to west coast of North America, $1,200,000, a total of $22,000,000, or 4¾% of the total transoceanic exports of Hamburg.

Of these countries Chile is the most important, and is hardly affected, so far as Europe is concerned, by the Panama canal. Hamburg received from Chile $23,200,000 worth of products and shipped $8,000,000 worth in return. This is between one-third and one-half of the total commerce with the western coast. Vessels laden with saltpeter and guano will undoubtedly prefer the route around Cape Horn, which is not much longer, and for cargoes of such little value will be preferable to that by way of the Panama canal, which is subject to heavy tolls.

The exchange of goods with the countries to which the lessening of distance is the greatest, namely, western Mexico and California, is of only moderate importance. The saving of nautical miles between Hamburg and San Francisco and all harbors on the western coast north of Panama is 6652 miles; south of Panama the saving constantly decreases. Between Hamburg and Valparaiso it amounts to only about 2400 nautical miles.

This saving is very much larger for the eastern ports of the United States, namely, 9531 nautical miles between New York and San Francisco, so that New York on this route gains 2889 nautical miles more than Hamburg. But this is not all. The main fact is that this saving is so large on the route from New York to eastern Asia and Australia that it changes the present disadvantage of New York into an advantage. From Hamburg to Hongkong, via Suez, the distance is 10,542 nautical miles; from New York to Hongkong, via Suez, it is 11,655 miles. Hamburg therefore has an advantage of about 1100 nautical miles. The Panama canal will give nothing to Hamburg, but a saving of 1820 nautical miles to New York, so that the distance will be only 9835 nautical miles, 707 less than from Hamburg. In routes to the more northern ports of eastern Asia, as well as to those of eastern Australia, the gain of New York grows very materially. From Hamburg, via Suez, to Melbourne the distance is 12,367 nautical miles; from New York about 12,500. Via Panama, however, the distance from New York is only 10,427, so that it will be about 2000 nautical miles nearer to the Australian port than Hamburg. To Yokohama the distance from Hamburg is 12,531 nautical miles; from New York, via Suez, it is 13,564—in round numbers 1000 nautical miles longer than from Hamburg. Through the Panama route New York gains 3729 nautical miles in the Japan lines; Hamburg nothing. New York has therefore a distance of only 9835 nautical miles to Yokohama—that is, in round numbers, 3700 nautical miles less than Hamburg. In shipping to Japan and northern China, and, in a lesser degree, to southern China and Australia, New York will have the advantage, on account of shorter steamer trips, over Hamburg and the English ports. If Europe has been therefore in a more advantageous position, North America will be the favored party when the Panama canal is built.

Distance is, of course, not the only decisive factor; if it were, Trieste would be of greater importance in the Far East than Liverpool and London. It is, however, of great weight. The Panama canal will favor the chances of the eastern ports of North America in an extraordinary degree. Only in the southern part of the west coast of America will this advantage be small, as the way around the southern end of America will be able to compete with the Panama route, for the reason of freedom from tolls. Of this change of conditions little notice has as yet been taken in Germany, while England has been aware of it for some time.

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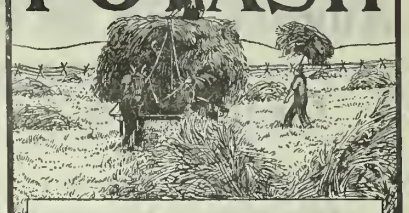
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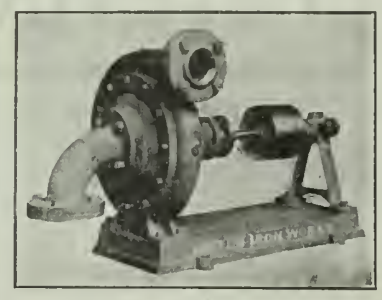
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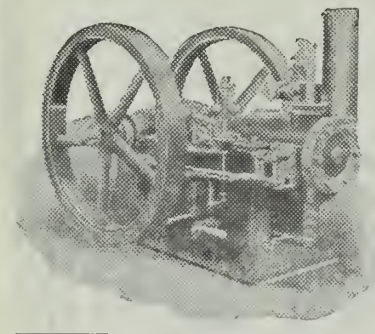
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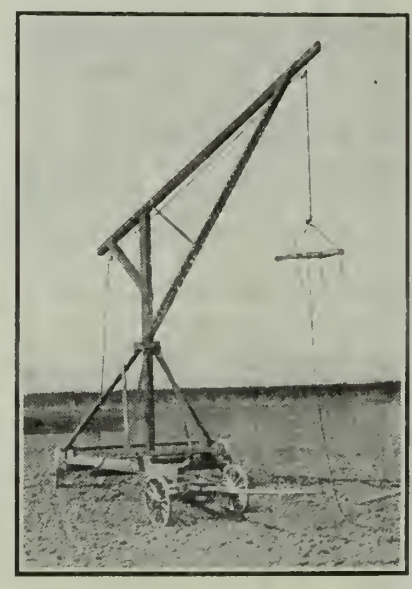
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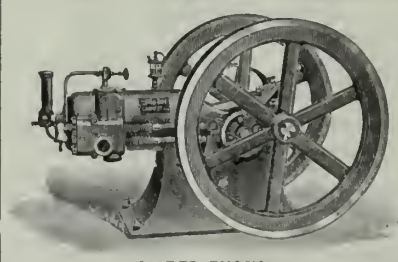
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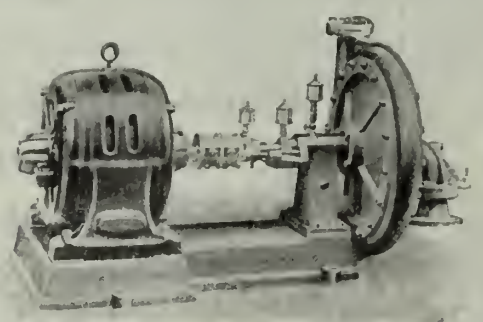
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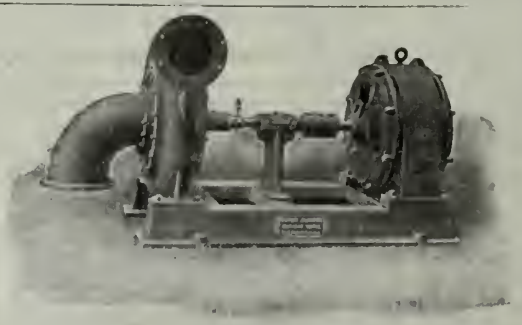
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THE PACIFIC RURAL PRESS

AN CALIFORNIA FRUIT BULLETIN.

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The Trans-Sierra Road to Mono County.

We return for a moment to the interesting piece of mountain road building which the State has entered upon to connect the portions of State domain west and east of the Sierra Nevada Range. We have previously presented several picturesque views along this line, and we recur to the subject just at this time because the Californians east of the mountains are urging their claims to have this work completed by the State as soon as possible. About 200 residents of Mono county have addressed a petition to Governor Pardee requesting that work on the Tioga-Mono State wagon road be commenced at once and pushed to a successful termination. The petition states that much dissatisfaction exists in Mono county on account of the delay in building the road. At one time it was thought that the cause of the delay was to be attributable to the State Highway Commissioner; but, having learned that he had received no order to prosecute the work, the petitioners beg the Governor to disregard any interests that may seem antagonistic to the public interest, namely, the old Tioga toll road, as they believe that the State can deal with this matter when it comes up. The petitioners claim that they will willingly pay tolls over the road until such time as an adjustment is made, and they state that hundreds of people desire to use the road, and that its completion will add greatly to the welfare and financial interests of the people of Mono and adjoining counties, and in consequence they urge the immediate resumption of work and the completion of the road.



Mono Pass Through the Crests of the Sierra Nevada as Seen When Looking Westward From Mono Lake.

This seems a very reasonable proposition and we trust it may prevail. Last summer when we were tramping around in the district we found that on the west side of the ridges there was also urgent demand that the work be prosecuted and some impatience that it should be so slow. There was, it is true, some belief that some State authority was to blame and that the work was being soldiered without good reason, and we did what we could to meet the objections with the conviction that there were difficulties in the way, and that the delay was not due to neglect or inefficiency on the part of the Department of Highways. It seems to us that it would be a good idea for Mr. Ellery, the Highway Commissioner, to anticipate perhaps what may be contained in his next biennial report sufficiently to show the people most interested just what situation the enterprise is in at the present time and what is required to finish the work. Now, while the Mono people are pushing the project it would seem just the time for a careful statement to carry most weight.



Foot of Bloody Canyon, at Head of Walker Lake, and Eastern Boundary of the National Park.

The pictures on this page are connected with the project to which we refer. The first is the main ridge of the Sierra Nevada, as seen from near the south end of Mono lake. The pass to the left is Mono Pass, which is 10,599 feet above sea level, and is very rugged and difficult of access. Two mountains, which guard the pass, are also shown—Mount Gibbs on the right and Mount Parker on the left—while in the foreground are several Indian wickiups. It was at this point that the first survey made the outlet by road, but it was rejected by later surveys because of excessive cost of construction.

The second scene is even more picturesque, and is within Mono Pass or Bloody Canyon. The perpendicular walls of granite and long lines of talus at their feet are clearly shown, as are also the general roughness and lack of vegetation which characterize the canyon. The foreground of the picture shows the eastern boundary of the National Park, with a squad of cavalry charged with the protection of the reservation.

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The Week.

The exceptional weather phenomena of the present summer will not soon be forgotten. Here and there, east of the Sierra Nevada mountains, for a month past cloudbursts have brought serious washouts, interfering with transportation seriously, and not sparing human life. Along the crests of the mountains lightning has been unusually frequent and has smitten mountain climbers to death. In the valleys during the past week, showers of greater or less weight have fallen, and San Francisco has met again showers in August—the first time in forty years. All these things are strange enough to excite surprise and comment, and in some cases have done injury to crops which have come to be considered perfectly safe under the sky in August. What these occurrences may portend for the remainder of the season does appear, but it will be just as well to proceed upon the assumption that it will be a year of much rain, beginning early and hurry things to cover as fast as possible. That will be safe and put work ahead—which is a good thing on general principles, also.

The occurrence of fatal lightning storms in California may cast reflections on the claims of their absence which are freely made in our industrial literature. It should be widely understood, however, that the fatal occurrences were not in the populated parts of the State, but in remote and lofty mountains. In his monthly report Director McAdie of the California section of the Weather Bureau makes twenty statements of the facts, viz.: It is rare that deaths by lightning occur in California. Thunder storms more or less severe are not infrequent in the mountains of this State, and there can be but little doubt that lightning often strikes the sequoia, sugar pines, yellow pines, tamaracks and other trees upon the mountain slopes. The high peaks are also often struck. During some seasons the number of storms is comparatively small, and indeed months may pass without the appearance of a cloud. The present season, however, was marked by a succession of thunder storms and fatalities. Mr. Byrd Surby was killed on the summit of Mount Whitney (14,515 feet elevation) on Tuesday, July 26, within 50 feet of the monument. Others in the party were shocked. On Sunday, July 24, Walter Wheeler was killed near the summit of Mount Gorgonio in the San Bernardino mountains, and another member of the party was rendered unconscious. These unfortunate occurrences do not affect the claim that the California valleys and foothills are practically free from such phenomena.

Wheat has had a setback, as might have been expected from the rush noted in our last issue. Just after that printing the market began to seesaw, and as we go to press with this issue there is a sharp fall, which places the Chicago market about 6 cents per bushel below the figures of one week ago, while in San Francisco futures have dropped about 3 cents per cental. Spot wheat here is unchanged, but there is little doing. Spot barley is steady, but futures show some sympathy for wheat. Barley is now going by steamer to Manchuria to feed the war horses. Oats are still strong, especially to hold for hay seed purposes, and corn is firm. Beans continue to be buffeted between buyers and sellers; whites, blackeyes and Limas are firm and bayos slightly easier. Millfeeds are unchanged, but steadily held. Hay is in bad shape, with considerable accumulations on both sides of the bay, and only fancy wheat and tame oat behaving well at all. Mutton is a little lower and large veal has improved; other meats are stationary. All except fancy creamery butter is in heavy supply and is suffering from the squeeze of cold storage and Eastern butter. Cheese is unchanged and so are eggs; select fresh are in light receipt, but the demand is slackened by high prices. There is still too much poor poultry, but there is on the whole a better tone and outlook. Potatoes are unchanged, but the lower-priced stock is moving out of sight—some going to Alaska. Onions are steady. Fresh fruits are in lighter receipt and firm for the better qualities. Canners have gone up from $20 to $30 per ton for pears. Choice cling peaches have gone to $50 per ton. Some table plums are selling well. Dried fruit is the same as before. Prunes are moving out, but not improving in price. Seedless raisins are looking up; others are unchanged. Packers are talking of clearing out the old stock. Valencia oranges and lemons are selling at old prices. Almonds are quoted up to 17c for Davisville Nonpareils in carload lots; almonds are making a record this year. Hops are unchanged and honey is quiet, with fancy white in scant supply. Wool buying is still on in the country and shipments by steamer from this port are proceeding with the market strong.

The State Fair is proceeding as we go to press and will continue all next week. It is very strong in live stock lines and deserves popular favor. The pavilion has been turned into a horse show arena, the oval for the display of horses and equipages occupying most of the space of the main building. The prize cattle at the fair will also be exhibited and judged in the oval at the pavilion. The exhibition ring is surrounded by an amphitheater and is located so that a fine view is commanded from the principal gallery. This will give a chance to see the animals better than has hitherto been possible. The grand parades of livestock at the park will be held at 10 o'clock A. M. on the following days: Saturday, August 27th, and Thursday, September 1st. The judging of cattle, etc., will commence each day at 10 A. M., excepting on days that parade is held, then immediately afterward. Professors Carlyle and Major will demonstrate the qualities of the prize animals in the classes they judge, and the affair will be educational as well as entertaining. The Board of Directors have done well with this year's fair, and they should be encouraged by wide patronage of the fair. Everything will be in full blast all through next week.

Agriculturally, it has been a disappointing year in some respects, and our sympathy goes out to all our readers who have not realized all they hoped for from the year's effort. It is, therefore, a cheering announcement which is made from the State capital that the State tax rate for the current fiscal year will be .535, as against .561 on the hundred of last year, but this rate cannot be officially announced and fixed by the State Board of Equalization until a date between the first and second Mondays in September.

QUERIES AND REPLIES.

Lye-Peeling of Peaches.

To the Editor:—After dipping peaches in a solution of caustic soda and hot water, to remove the skin, is there anything that can be put into that same solution that will take away the smell of lye which is on the fruit after removing from the water?

The fruit is dipped in above-named solution to remove the skins, after which I force cold water upon the fruit to remove the smell of lye, but it fails. If no preparation can be put into the first solution, can it be done by putting something into a second, either of hot or cold water, and also can anything be put into the second solution to remove the few particles of skin remaining on the fruit after first solution?—Fruit Drier, San Francisco.

The lye dipping of peaches is usually fairly satisfactory, providing enough fresh water is used after the lye dip. It is usually held that nothing is satisfactory except plunging and a certain amount of washing in fresh water. The lye dip has worked best where the operator had a running stream, so that water could be continually running in and out of his rinsing tank. We doubt if it is possible to operate the lye dip if you only trust to washing off the lye with a hose. We imagine this is what you have done by what you say about "forcing cold water upon the fruit." We do not think this can be made satisfactory. A great many have abandoned lye dipping for lack of enough fresh water. When the fruit is plunged instead of spraying, not only is the lye removed, but the adhering particles of skin are also floated off. We suppose that after dipping you sulphur the fruit. This would result in a combination of sulphurous acid with the alkali remaining from the dip, and would be very apt to give the fruit the ill-savor of which you speak. We can not suggest anything for your assistance except the free washing in fresh water, changing the water frequently enough to be sure that it does not become charged with lye. It should be added that lye peeling is apt to reduce the value of the product and be productive of disappointment.

California Wheat Varieties.

To the Editor:—Is there a book or pamphlet giving reliable information on the kinds of wheat best adapted to different soils in California?—C. V., San Francisco.

We are sorry there is no book or pamphlet giving comprehensive information about the kinds of wheat which are found best in different parts of California. The different wheat growing districts of the State have different varieties which they have found by experience to be best for their conditions. For example, the Sonora is almost universally grown in the upper part of the San Joaquin valley; California Club, White Australian, etc., are largely grown in the central part of the State, while in the upper Sacramento valley the Proper and Pride of Butte are grown to considerable extent. The only way at present to get trustworthy information as to what wheat one should grow in the particular locality is to confer with the local growers as to the results of their experience. In each district the most successful of the common kinds are known to almost every one, consequently it is not difficult to get specific local information, but for a true and comprehensive statement with reference to the whole State none has yet been prepared, and it would not be easy to do it in a thoroughly satisfactory manner. The investigation now in progress under the auspices of the State Board of Trade may disclose data upon which such a publication may be prepared.

Pear Blight in San Luis Obispo County.

To the Editor:—The pear blight has made a remarkable spread this season. It is in nearly all the pear orchards around San Miguel and Paso Robles. It is also bad in an old orchard below Templeton and in isolated orchards down Old creek clear to Cayucos. I am told that it shows in all the pear trees, the exceptions being trees that have not been cultivated, pruned or otherwise taken care of. The more thrifty the orchard the worse the disease.—Grower, Paso Robles.

What you say about the freedom from blight of neglected trees is true of the disease, not only here but at the East. If a tree is in such straits that it practically refuses to make new growth the blight seems to have but little opportunity; on the other hand, the best cultivated trees and those which are

by cultivation and irrigation disposed to make new breaks of growth during the summer time and to bloom out of season are most likely to be stricken at several points at once, and when that is so the destruction of the tree is greatly accelerated, but this fact is of little moment, because an unthrifty tree is of very little account in our commercial fruit growing, and it therefore matters very little if it does escape the blight. This pear blight attacks our most profitable pears. It also attacks the apple, and is doing much injury with that fruit in some places. In Colorado they report that it affects the apricot, but fortunately that has not yet been demonstrated in this State. What we shall do with it does not yet clearly appear. We have, however, this consolation on the whole, that everywhere the blight appears, both at the East and in California, it seems to be most virulent and destructive at first, and after a time becomes less so, for what reason no one has yet explained.

Volunteer Alfalfa.

To the Editor:—I have a piece of alfalfa sown last spring which is too thin to make a satisfactory stand. I have left it uncut in order to have the seed ripen and fall and thus get a sufficient stand. Do you think the hot sun of August and September will kill the germ in the seed, or do you think that by lying on top of the ground until fall the seed will retain its germinating properties?—Farmer, Modesto.

We have never seen a thin stand of alfalfa thicken up much by volunteering, though it may do so under favorable circumstances. The seed dropped on the hard ground is apt to germinate by the first moisture and perish later, because the first fall moisture seldom penetrates deeply and the surface becomes dry and hot. Again, where the moisture is greater, we have seen old alfalfa plants surrounded by little volunteers thick as the hair on a dog, in the fall, and the same old isolated plant trying to cover the ground next year by multiplying its branches. Whether the little volunteers perished by drouth or frost we never determined, but they disappeared just the same. For this reason we should rely upon thickening up the stand by sowing more seed. Wait until the ground is well wet down by the rains and the heavy frosts are over and then disk the surface when it is, work well, and put on more seed. This can best be done in your region in February; in other places it may do better earlier or later, according to the local rainfall and frosts. If any reader has conflicting opinion on this subject, let us have the benefit of it.

Fall Irrigation for Oranges.

To the Editor—Will not irrigation in September make oranges ripen sooner? If so, would not the loss in weight and growth of the tree more than overbalance the gain?—Brownie, Fair Oaks.

If your oranges are not advancing properly irrigation will help them along. We cannot see where there would be any loss in weight or growth of the tree. If the tree needs moisture now, as it is almost sure to do, we can see nothing but losses in forcing it to exist without it.

Cocoanut Meal.

To the Editor:—Kindly inform me as to the feeding contents of cocoanut cake meal in 100 pounds—i. e., how many pounds of dry matter, protein and carbohydrates are contained in that quantity.—P. E., Rutherford.

According to a recent analysis at the State University cocoanut meal shows 85.9% of dry matter, and 100 pounds of dry matter contains digestible nutrients as follows: Protein, 16.4; carbohydrates, 42.4; fat, 9.7.

Millet Hay.

To the Editor:—I have a lot of millet hay growing. Since planting this millet I am informed from different sources that it is dangerous to feed this kind of hay to horses. Is this so? If so, how and why?—F. L. H., Freeport.

There is sometimes trouble from the indigestibility of the stuff, especially if it is allowed to become too mature before cutting. We have never heard that it was directly poisonous.

Growth of Peas for Green Manure.

To the Editor:—I wish to plant Canada field peas, as advised by you, for green manuring, in a young orange orchard near Orland, Glenn county. I have looked over all the University bulletins in my possession, but I do not find directions with reference to the time of planting, or the stage of development of the plant when it is best to plow it under. Is September 1 too early to plant on ground that has just been irrigated, and can peas planted then be allowed to stand until about the 1st of March before being plowed under?—Planter, Colusa.

Field peas can be sown in September on ground deeply moist by irrigation and ought to give you a good fall growth. When you should plow them under will depend much upon the rate of this growth. As cool weather comes on they will grow more slowly and it may be found desirable to leave them until March for plowing under, as you state. If, however, the winter in your situation should be such that the peas continue growing rapidly and advance toward maturity they should be plowed under sooner, because it is not at all desirable that they should go out of the succulent and into a matured condition. Where things are favorable, as early start as you can get is desirable, because it promotes a greater amount of growth. You have to be governed by local conditions in this matter, bearing in mind the point in view, viz., to plow under as much as possible of the succulent form of nitrogenous vegetation.

Strawberry Planting.

To the Editor:—I have seven acres of young strawberries. When and how close shall I cut the runners? Also on year-old peach trees I have a young growth of 3 to 4 feet and three to twelve limbs. Shall I cut them back and how much? On an old apricot orchard of large trees should the new growth be cut back half and when is the best time?—Beginner, Silcott, Wash.

Strawberries are commonly grown on the Pacific coast in matted rows with irrigation furrows between each two rows. The runners are confined to the space between the two rows in which there is no irrigation furrow. Runners should be pinched off quite close to the parent plants whenever it is evident that the rows are becoming too thickly set.

It is common in this State to cut back peaches during the dormant season, removing about one-half of the growth of the previous summer and thinning out the shoots so that not more than one shall remain at the point of attachment to the older wood. Apricot trees should be treated in about the same way, so that the trees shall not carry too much bearing wood and produce too much small fruit.

Low Temperatures and the Orange.

To the Editor:—If you have something showing the degree of cold that the orange will endure I should be glad to have it.—Enquirer, Alvin, Texas.

The orange tree will stand about 25° without injury to the foliage, providing the growth is matured and the low temperature is not of too long duration. It will stand perhaps 20° with the loss of the younger wood. According to the Florida experience, a temperature of 15° will destroy old trees. We have never had such a temperature in California, consequently cannot speak of the extremely low point, but although the tree is hardy to this extent the fruit is liable to be rendered worthless by a temperature of 29° maintained for an hour, although it will endure a somewhat lower temperature if the low point be held for a very brief time. These temperatures are all Fahrenheit.

Rise of Ground Water.

To the Editor:—I have a strip of low land of three or four acres; in the latter part of July the water raised up within 6 feet of the surface. Will you kindly tell me if peach trees will do well there? If not, what would you advise me to put on such land?—Reader, Kingsburg.

If you are sure that the ground water will not rise nearer than 6 feet from the surface, you can get good peach trees, providing the land is rather light and the situation not too frosty for the peach. If you have a heavy soil over the water, we should not plant fruit trees, though pear trees would do well if the blight did not take them.

Blackberry Rust.

To the Editor:—Inclosed find some leaves of Lawton blackberry which have an orange-colored powder on the under sides. If you can, please give me some information of the cause and cure of this plague, as it is very destructive to both fruit and plant.—W. P., Arroyo Grande.

The blackberry leaves are infested with a fungus disease known as blackberry rust. The remedy for it is Bordeaux mixture. It is late this season to do anything with the trouble, but by beginning treatment earlier in the season next year, as soon as you see the least signs of the trouble, you can kill the spores and protect the foliage from the spread of the disease. For this purpose you need a spray pump and nozzle like the Cyclone, which can be held low and deliver its spray largely upon the under side of the leaves.

WEATHER AND CROPS.

Report of the U. S. Weather Service for Week Ending August 22, 1904.

Alexander McAdie, Forecast Official and Section Director.

Sacramento Valley.

Clear and seasonable weather prevailed during the past week. Forest fires are reported in the mountain districts in the northern part of the valley. Grain harvest is completed and the yield was light. The third crop of alfalfa has been harvested. Hop picking and baling are progressing; the crop is large and the quality good. Almond harvest has commenced. Grapes are ripening rapidly, and large shipments are being made; the crop is large in all sections. A large crop of Tokays of excellent quality is being shipped. Pears, peaches and plums are being shipped and dried. Prune picking and drying has commenced in most sections; the crop is large and of good quality. White Adriatic figs are being gathered and cured. Olives are making good progress, and show continued improvement as the season advances.

Coast and Bay Sections.

The weather during the past week has been cool and cloudy, with foggy mornings. Grain harvest is about completed, except in the north; in the south coast section the yield has been better than was expected. Bean harvest has commenced in all sections. A report from San Luis Obispo county states that some sections are showing blight; in Sonoma county the crop is large and of good quality. Hops and sugar beets are making rapid progress, and promise good crops. Hop picking will commence in Sonoma county the first of the week. Prunes are reported light in some sections, but of excellent quality; picking and drying have commenced in most sections. Grapes are doing finely, and a large and excellent crop will be harvested. Corn and vegetables are doing well. Olives, almonds and walnuts are in good condition.

San Joaquin Valley.

The weather during the past week has been clear and warm. The grape crop is making good progress; picking has commenced in some places, and the harvest will be general in about ten days; the crop is large and of good quality. The deciduous fruit crop is ripening rapidly; canneries and dryers are in full operation, and large shipments continue. Prune picking and drying has commenced; the crop is good. The first of this season's pack of dried peaches was shipped from Visalia on the 16th. Nectarines are a good crop. Shipments of peaches and pears are falling off. Large shipments of watermelons continue. Stock are healthy and in good condition.

Southern California.

Warm and partly cloudy weather prevailed during the past week, with occasional fogs in the coast districts. Grapes are ripening rapidly, and picking is progressing. The deciduous fruit crop is generally light, but the quality is excellent. Citrus fruits are suffering for irrigation, but rain within the next six weeks will place both orange and lemon groves in good condition. Walnuts continue to make good growth. Corn is maturing, and the crop is good where irrigated. On the northern coast the grain crop is better than was expected. Bean harvest has commenced; in some sections the warm weather has damaged the crop on non-irrigated land. Sugar beets are making good growth. Potatoes are being planted for late crop. The olive crop will be light.

Eureka Summary.—Continued cool weather, cloudy and foggy. Harvesting of wheat and barley in full progress; reports indicate a good crop of each. Peas, tomatoes and potatoes are very promising. The supply of apples is very short.

Los Angeles Summary.—Heavy demand for irrigation water. Some sections report the deciduous fruit crop the poorest for years; citrus orchards are looking well, but orange crop promises to be light.

Rainfall and Temperature.

The following data for the week ending 5 A. M. Wednesday, August 24, 1904, are from official sources and are furnished by the United States Weather Bureau for the Pacific Rural Press:

California Stations.	Total Rainfall for the Week	Total Seasonal Rainfall to Date	Total Seasonal Rainfall Last Year to Same Date	Average Seasonal Rainfall to Date	Maximum Temperature for the week	Minimum Temperature for the week
Eureka	.00	1.19	.53	.22	60	48
Red Bluff	.00	.10	.00	.06	104	66
Sacramento	.06	.06	.00	.01	92	54
San Francisco	.06	.08	T	.03	70	52
Fresno	.00	00	.00	T	102	60
Indcpendence	(*)	(*)	.00	.10	(*)	(*)
San Luis Obispo	T	T	.00	.05	78	54
Los Angeles	.04	16	.00	.04	82	60
San Diego	.00	T	T	.10	76	64
Yuma	.40	.73	.04	.43	102	70

(*) Incomplete—wire down.

THE VINEYARD.

The Viticultural Industry of the United States.

By Mr. George C. Husmann, Viticulturist of the United States Department of Agriculture, at the last meeting of the California Viticultural Club.

Previous to the introduction of the Catawba into general cultivation, the more important attempts at grape growing in the States east of the Rocky mountains had been with Vinifera varieties and were not a commercial success. The introduction of this grape really marked a new era in viticultural history, for with it began the improving of our native grapes and the raising of varieties from them for commereial purposes. It gave such an impetus to grape culture that ten years later nearly 100 varieties were enumerated; forty years later all the States and Territories, exeept four, were growing grapes, and now there are over 1000 well described varieties of American grapes.

While this was occurring in the States east of the Rockies, the pioneer grape growers of California, who had previously been growing the Mission variety, turned their attention to the introduction of choice European varieties, and grape growing in California as an industry began to assert itself. How rapid for a time the progress was are matters of comparatively recent history, with which most of you are quite familiar.

East and West.—The viticultural industry in this country, as such, is, therefore, little over half a century old and is as yet in its infancy. It has led up to the manufacture of choice wines from American grapes. The manufacture of sparkling wine and unfermented grape juice has been developed in the Eastern States, while the Pacific coast has entered into direct competition with the choicest European wines and has captured the raisin market of this country. The industry in this country has already, up to date, divided itself into two entirely distinct districts. In California, where the Viniferas have ever found a congenial home, these are being exclusively grown, and east of the Rocky mountains, where previous attempts seemed to indicate that Viniferas were a failure, the culture and improvement of American varieties has been as tenaciously followed. What a wonderful effect surroundings have, and what diversity of tastes they develop in individuals! For instance, in Oregon, where quite a number of people have settled in States east of the Rockies, the fresh grapes and unfermented juices sold are principally from the States where these people came from. In making my rounds of the experimental vineyards conducted by the Government on the Atlantic coast, where the culture of Viniferas on resistant stock has been made an important study. I have often invited the people to try the fruit and express their opinion regarding the Vinifera varieties grown there, and the answer usually is: "They are nice, but not as good as Concord, Niagara or Delaware."

American Varieties.—Considering the youth of our industry, the results so far achieved are remarkable, and we have reason to feel proud of them; nevertheless, we have only made a beginning and much remains to be done.

Major John Adlum, writing to Nicholas Longworth of Cincinnati, about the Catawba, says: "In introducing this grape into general cultivation, I have done the country a greater good than if I had paid the National debt." No doubt he had become convinced that for the territory he and Longworth were familiar with, and in which they had been trying to grow grapes, the improving of our native species is the problem which, when solved, will make it possible to grow grapes in practically all parts of the Union. No doubt he never thought that resistant stock (or American varieties) would, in the near future, be the ageney through which the leading grape districts of the world could re-establish their vineyards. Neither was he aware of the immense possibility for the future there is in the improving of another native American species. I refer to the Scuppernong, which is another case of the survival of the fittest, a native grape abounding on the Atlantic coast from Maryland to Florida and along the Gulf of Texas, which resists the phylloxera, is the most immune from diseases of any grape species, produces enormously, needs perhaps less care and attention than any other, which make the cost of producing other grapes so great. Nice Sauternes and sparkling wines have been produced from them and yet, strange to say, little or nothing had been done so far to develop and improve this species. In it, there appears to be great possibilities for the South Atlantic and Gulf States.

According to the census of 1900, 169,055 gallons of sparkling wine were produced in the United States. Of this, Missouri reported 2940, California 8880, Ohio 15,600 and New York 113,435. Thus, New York produced more than twice as much as all the rest of the country, and more than twelve times as much as California. The same year the Chautauqua belt alone, on Lake Erie, shipped 8000 cars of table grapes and made 1,500,000 gallons of dry wine and unfermented grape juice. The entire output is from American varieties.

Resistant Varieties.—The importance of American or resistant varieties to California viticulture needs no mention from me, for you all know that upon this so largely depends the fact of whether or not the real wine districts of California will or will not exist in the future. Realizing the gravity of the situation in California and that similar conditions were liable to arise at any time in any of the States and Territories of the Union where European grapes are a commercial possibility, the Department of Agriculture has located in California nine experimental vineyards for the purpose of making such investigations as are deemed necessary. These have been located with special reference to a diversity of soil and climatic, hillside, valley or desert conditions, nearness to and distance from ocean, bay and other bodies of water and so as to take in the raisin and table grape as well as wine and brandy producing districts. At these experimental vineyards, to begin with, four cardinal questions are to be investigated:

First—Make a comprehensive test of the resistant varieties of vines, to determine their adaptability to the different vineyard soils and climatic conditions.

Second—To study and determine the congeniality of Vinifera varieties to the different resistant varieties.

Third—To ascertain which varieties are best adapted to the different localities.

Fourth—To afford opportunity for testing all classes of grapes, with reference to their resistance to diseases which have been doing such injury to the vineyards, and, if found necessary, to undertake the creation of an entirely new class of grapes to resist them.

It will interest you to know the first plantings made by the Department of Agriculture in the experimental vineyards located in California are expected to make sufficient growth this season so that systematic grafting experiments will begin the coming spring to study the congeniality, as well as the relative value, of the leading commercial varieties of grapes grown on the coast for different purposes, grafted on various resistant stocks. Some observations will be made on the relative growth and merits of resistant varieties on different soils under different climatic and other conditions. The relative rooting qualities of sixty-three resistant varieties are being tried, with reference to their commercial value for stock purposes. The plantings made to date at the experimental vineyards are as follows:

Oakville, about 10 acres; 179 resistant varieties and 57 Vinifera varieties on resistant stock.
Cucamonga, about 8⅛ acres; 400 varieties, nearly all Viniferas.
Fresno, about 6 acres; 155 resistant varieties.
Concord, about 1¼ acres; 84 resistant varieties.
Geyserville, about ¾ acre; 73 resistant varieties.
Lodi, about 1¼ acre; 68 resistant varieties.
Livermore, about 1 acre; 72 resistant varieties.
Mountain View, about 1¼ acre; 79 resistant varieties.
Sonoma, about 1⅛ acres; 72 resistant varieties.

These plantings will be enlarged upon as rapidly as thought necessary.

In prosecuting these investigations the Bureau of Plant Industry of the Department of Agriculture has established and is maintaining the above-mentioned vineyards. The Agricultural Experiment Station of the University of California has agreed to co-operate in the work in making such analyses of soils, vines and products as shall, upon mutual agreement between the Bureau and the Station, be found desirable or necessary.

While carrying out these investigations, it is our desire to get in as close touch as possible with all those interested and make the investigations have a direct and decided influence towards improvement in various ways in the re-establishment of the vineyards that have been destroyed through various causes, as well as in the new acreage planted. Earnest consideration should be given in planting, not only to the selection of varieties for special purposes, but also to soils and districts producing the best quality and results for that purpose. Every individual should determine before planting whether it is desirable to grow table, raisin, wine or brandy grapes, and locate and act accordingly. Quite a number of localities have already given proof of raising superior quality along particular lines; thus Livermore has produced choice Sauternes. In the Napa and Sonoma districts there are localities where specially fine white wines, and others where most excellent red wines, are produced; whereas, in the Fresno district, raisins are a special success, while in the American River district choice table grapes are grown.

There cannot be too much consideration given to quality. In this respect California has not been improving along wine lines, but rather retrograding. Very nearly the same prices are being paid for indifferent as for the choicest grapes, so there is no inducement to produce quality, and real choice wines are becoming more of a rarity every year. Those who do not look into these things closely wonder why the consumption does not increase more rapidly, and the competition with New York wines and those of other States is becoming keener every year.

The California Crop.—Glancing over last year's crop reports, we find that California produced more than three-fourths of the entire viticultural products of the country, producing in the fiscal year of 1902-3 5,700,343 gallons of brandy—by far the largest output in the history of the State—and, in 1903, 30,000,000 gallons of wine, 300 cars of dried grapes, 103,000,000 pounds of raisins, and shipped 1718 carloads of green grapes. California's green grape shipments, the smallest commercial output of the vine, last year amounted to about 35,000,000 pounds, which, compared to other fruit shipments, represents almost one-fourth of the entire Eastern shipments of deciduous green fruit from the State. Were we to compute the number of green grapes necessary to produce California's output of last year, we would have a grand total of from 800,000,000 to 1,000,000,000 pounds.

When we consider that the industry is in its infancy and that at least 75,000 acres of flourishing vineyards have been destroyed by phylloxera, diseases and other agencies, a great deal has been accomplished. However, when we think California has a wine producing area almost equal to the whole of France and has never produced more than a little over 43,000,000 gallons of wine, whereas France produces over 1,500,000,000 gallons annually, or about 37½ times as much, we conclude there is plenty of room to grow in, and we know that by going at it right California can yield a product that will compare with the best European productions, and while European countries must be satisfied with 175 to 500 gallons to the acre, California produces 1000 gallons. Then reflect on the difference in the work and tiling of vineyards there, as compared with the ploughing and cultivating we give them here, and while re-establishing and increasing your acreage, let "Excelsior" be the watchword. Don't be afraid to sell your goods under their own name, but be proud of it, and the future possibilities can hardly be estimated.

I expect to visit all the principal grape districts of California during the coming vintage, to make a close study of conditions and changes and to lay out work for the future, and hope then to have the pleasure of meeting many of you. Plans are now in progress to have a man reside permanently in California to look after the work.

Mataro on St. George, Etc.

To the Editor:—Referring to the article "Re-establishing a Resistant Vineyard," in your issue of the 13th inst., Mr. Swett says Mataro does well on Rupestris St. George, while in the University Bulletin No. 131 (pp. 13-14) it is stated that the "Mataro does not bear on Rupestris St. George." Can you tell me which is correct?

Can you give me more information about the French method of grafting (without tying), mentioned by Mr. Swett in the above article?

Is Golden Chasselas a success on Rupestris St. George?—Healdsburg.

Reply by Mr. F. T. Swett.

To the Editor:—Answering your correspondent's inquiry as to fruitfulness of Mataro when grafted on Rupestris St. George, I will state that on four and five year old vines I have seen crops that would run from four to five tons to the acre. I have been informed that two years ago a block of Mataro on St. George in the Santa Clara valley bore seven tons to the acre. On our own vineyard here our vines are young, but bench-grafts set fruit the first year of planting and the second year it was necessary to cut off the bunches to prevent premature bearing.

In the University bulletin referred to the statement was not made from California observation, for at the time of publication there were no old vines of Mataro on St. George in the State. A footnote in the bulletin refers to Prosper Gervais as the author of the statement. Referring to Gervais' "Reconstitution," his observation (page 125) is that "in the southeast of France young grafts of Mataro are very vigorous, but without grapes." In other words, they run to wood for a year or two—something that often happens on rich soil where moisture is abundant. Gervais states that the affinity of Mataro with Riparia is bad; with St. George it is good; with 1202 (Mourvedre-Rupestris or Mataro-Rupestris) it is very good. This is in the southeast of France. In the Charente, where the soil is extremely limy, the Mataro (which is sensitive to a surplus of lime in the soil) does not do so well on resistant stock; it suffers from "chlorosis," the leaves yellowing in the spring. There is nothing to fear in California from chlorosis, for we have no soils running from 25% to 50% of lime; 6% is exceptionally high in California

In sections of the State where Anaheim disease is suspected, the intending planter will do well to remember that in the Santa Clara valley the Mataro were among the most sensitive of all vines to the ravages of whatever killed out the vines. Another consideration is that in some localities the Mataro does not make a desirable wine, lacking color and character.

In regard to the method of grafting without tying, callousing in moss in a hotroom, the details are so many and so various that a short account would be useless and possibly misleading. The University has been experimenting at our nursery at Lodi with this method and will publish a bulletin this coming winter in detail. We found at Martinez that results quite different from those in France were obtained while apparently following the same procedure. This com-

ing season we will carry on the work somewhat differently from the season past. If your correspondent will visit our nursery while the work is going on we will be glad to show him the process in all its details.

Mr. Markley of Geyserville says Golden Chasselas does well on St. George in his locality. At St. Helena it is grown very successfully on St. George.

Martinez. FRANK T. SWETT.

THE POULTRY YARD.

A Sacramento Valley Grower.

E. C. Ward of Rackerby in Yuba county, says the Oroville Register, is one of the best posted poultry growers in the State. He was engaged in the business in the East for years before coming to California, and comparing the two sections he gives California by far the preference. He says we could have no better climate for poultry conditions than in the foothills of the Sierras.

Speaking of the profits, he says that a dollar a year taking one year with another can be depended upon for each hen if given the right kind of food and care. This is a clear profit over and above their keeping. If good care and attention is given this will hold true whether the grower has ten, a hundred or a thousand hens.

It will not hold true, however, if the man who has a thousand hens attempts to keep them on the same area of feeding ground that is suitable for a hundred.

He made some tests where he is about keeping poultry in pens and covered sheds, but found they did not lay so well as those that had plenty of feeding ground and plenty of room for exercise. He thinks the latter is the most important.

After having tested a number of varieties he decided in his own mind that the Leghorn was one of the very best. They lay early and are good layers. The age at which pullets will lay depends upon the breed, upon the feed and upon the care and attention that is given them. Well bred pullets that have been well fed and cared for will begin laying when five months old. Common pullets raised under ordinary condition may be a year old before they begin laying.

He says one thing is certain; farmers cannot get the early returns from pullets that breeders can, for they are not in a position to do the feeding that breeders do.

He keeps on an average three hundred hens all the time. At present he has about five hundred head of poultry, but this number will soon be lessened as he will begin selling off the young chicks of early spring.

They have considerable losses from coyotes and foxes, but few deaths among the hens from any disease.

Mr. Ward tried keeping the hen in large pens and feeding cut grass to them, but found when this was done only a limited percentage of the eggs would hatch. Hence he prefers the larger range for all laying hens.

He finally decided to raise only one breed and now keeps the barred Plymouth Rocks, which he considers one of the very best.

He sells all his eggs in Oroville and has never but once made a shipment to San Francisco. He tells us that prices are better and returns more satisfactory than in the Atlantic States where he was in the poultry business.

The State Fair Next Week.

It is expected that at the coming State Fair, which began August 22nd and will continue until September 3rd, there will be the best poultry show ever seen in Sacramento. Almost all the best breeders in the State are applying for space, and it is even hoped that some of the Los Angeles breeders will send up fowls to compete and show what can be done in that locality.

Most people don't know what the American hen is worth. She is not as large as a cow or a horse and her eggs are not very large; but if a man was hit by a hailstone as large as a hen's egg he would be aware right away that something was doing. And so there is: The Great American Hen is laying eggs. According to the census in 1900—the last one—she laid the year before 1,239,119,186 dozen eggs. It would take considerable toast to lay those eggs on, if poached. And those eggs sold for $150,000,000. John Mitchell and his coal miners have made much more noise in the world than the hen, but the value at the mine of the hard coal mined in the United States is only $75,000,000. And the hen goes right on increasing her number of eggs, while the production of hard coal has been about stationary for several years past. She doesn't talk much, but she gets right down to business.

The orange grower and the sugar beet grower and the prune grower are asking for protection. The hen doesn't ask for protection, she just gets right up and scratches for a living. She believes in reciprocity. If you will give her a little food of the right kind, plenty of pure water and a chance to scratch for a living, she will reciprocate with many dozens of eggs with no tariff on them. Cast a little daily bread on the waters in her case and she will return many a loaf to you, and she doesn't spend much time in loafing, either. There are all kinds of hens, and some other kinds also. Come to the State Fair and see both kinds.

Just Loafing Around.

To the Editor:—My hens are not doing well—do not lay much. I cannot discover many vermin on them. They lie down on their sides in the heat of the day and spread out their wings as though they were cold. Can you tell me what ails them and what to do for it?—E. G.

To the Editor:—The hens in question may be entering their annual molt, and that may be the reason they are falling off in their laying. Fowls are molting early this season and should be fed liberally, even though their eggs do not pay expenses. The fowls of E. G. evidently enjoy lolling in the dust during the heat of these summer days, as do all hens. If they have no disease they will come around all right if they have good care —A. Warren Robinson, Napa.

THE IRRIGATOR.

Desirability of More Permanent Irrigation Structures.

In the course of an important report as consulting hydraulic engineer of the Turlock Irrigation District, Prof. S. Fortier of the irrigation department of the State University, makes a contrast between the cost and desirability of pipe lines and of flumes and trestles which will be interesting to all who are carrying water over low places in the lines of their main canals. From Prof. Fortier's report we take the following paragraphs:

Flumes on High Trestles.—There are three flumes on high trestles on the upper portion of the main canal. The upper one, built across Morgan ravine, is 300 feet between approaches, and the bottom of the flume is 60 feet above the surface of the water in the creek. The second is built across what is known as Delaney creek and is 514 feet long and 61 feet high, while the third spans Peaslee ravine. The total length of the latter flume is 350 feet and the floor sills are 64 feet above the surface of the water.

Morgan and Peaslee Ravine Flumes.—Both of these flumes are now in a dangerous condition and are liable to collapse at any time under a full head. If it is intended to increase the capacity of the canal to, say, 600 cubic feet per second, next year, both crossings should be renewed this fall. In reaching conclusions as to the best means of providing a suitable crossing in each case, several types of structure have been considered. In what follows a brief description of each is given, with the approximate estimate of cost when completed and in condition to convey the desired volume of water.

Inverted Pipe Siphons.—The idea of siphoning the flow of the Turlock canal under these deep ravines has not received the consideration which its merits deserve, and the attention of the members of the board is called to the following facts: In the use of pipes for the Morgan and Peaslee crossings, three sizes have been considered, namely, 6 feet, 7 feet and 8 feet internal diameter, respectively. The largest size would be the cheapest, but the 6-foot pipe, I am convinced, would prove the most satisfactory. I have accordingly adopted the smaller size throughout. The surveys made by Mr. Child and myself show that there is ample fall in both cases to provide a mean velocity of over 10 feet per second. That is probably as high as it is safe to go. In the estimates submitted it will be observed that in the case of both wooden and steel pipes figures are given for three lines of 6-foot pipe and also for five lines. The capacity of the former in round numbers would be 900 cubic feet per second and of the latter 1500 cubic feet per second.

Redwood Stave Pipe.—The estimates are based on the use of dark, heavy redwood, bound by steel bands and well protected from corrosion. Both approaches are to consist of cement concrete flumes, and the ends of the pipes are to be embedded in asphalt concrete. The necessary blow-offs and angles are included.

Steel Pipes.—The shell of these 6-foot pipes is to be $\frac{5}{16}$ of an inch in thickness and made from a fine quality of open-hearth steel. The approaches are of concrete and each pipe is to be thoroughly coated before being laid and afterwards embedded in a 3-inch layer of asphalt concrete. By keeping the insides painted from time to time, corrosion will be impossible.

Wooden Flumes on Wooden Trestles.—In this class of structure the estimates are based on the type of flume and trestle recently erected by the Pacific Construction Company over Delaney ravine. The trestles rest on concrete piers, and the approaches, which are usually the first to decay, are to consist of concrete flumes.

Wooden Flumes on Steel Trestles.—This type comprises steel trestles on concrete foundations, a wooden box of good redwood and concrete approaches.

All-Steel Flumes.—In this both trestles and flumes are of steel and rest on concrete masonry foundations.

It may be well to add, in connection with flumes, that in all the various types mentioned the width is designed to be 20 feet and the depth of water 8 feet. On the given grade this size of flume would carry about 1500 cubic feet per second.

Morgan Ravine Crossing. — Estimated cost of each of five different types of structures to replace the present Morgan flume:

Redwood pipes, 6 ft. diameter, three lines	$11,000
Redwood pipes, 6 ft. diameter, five lines	17,500
Steel pipes, 6 ft. diameter, three lines	21,000
Steel pipes, 6 ft. diameter, five lines	31,750
Wooden flume and trestles	18,500
Wooden flume and steel trestles	31,500
All-steel flume and trestles	40,500

Peaslee River Crossing.—Estimated cost of each of five different kinds of structures to replace the present Peaslee flume:

Redwood pipes, 6 ft. diameter, three lines	$14,000
Redwood pipes, 6 ft. diameter five lines	21,250
Steel pipes, 6 ft. diameter, three lines	24,900
Steel pipes, 6 ft. diameter, five lines	39,000
Wooden flume and trestles	22,500
Wooden flume and steel trestles	40,000
All-steel flumes and trestles	47,250

The Delaney Flume.—Inasmuch as two-fifths of this flume was renewed the past season, it is considered best to replace the old portions with the same kind of structure, built in a similar manner.

Comparison of Costs —In reviewing the foregoing figures on the cost of the different structures, I would recommend for the Morgan and Peaslee crossings the use of steel pipes laid in the manner indicated. In my judgment, these steel pipes would outlast an all-steel flume and trestle structure and cost less for maintenance and repairs. It will also be observed that, on the basis of a full head for both kinds of structures, there is a saving of $17,000 in first cost in favor of steel pipes. This maximum capacity, however, will not be required for many years to come —possibly not until 1920—and in the meantime fewer lines of 6-foot piping would suffice. A new line might be added at any time when the demand for water required an additional supply. Comparing the cost of three lines of pipe, which would give a discharge sufficient for several years to come, with an all-steel flume, there is a saving of $41,850.

For similar reasons I would prefer the use of redwood stave pipes to wooden flumes on high pine trestles. From an eighteen years' experience in the construction and use of redwood stave pipes, I have no hesitancy in stating that the wooden pipes would last much longer than the wooden flumes on pine trestles.

Of the various types of structures named, there remains but the redwood flume on steel trestles. Since the cost of this combination is about equal to steam pipes, I would again express a preference for the latter. There is no question, I think, but that the redwood box would require to be renewed several times during the life of the steel pipes, providing, of course, that the exterior and interior surfaces of the latter are thoroughly protected from corrosion. By embedding the exterior surface in asphalt concrete and applying frequent coatings of paint to the interior, it is believed that the metal can be kept entirely free from rust.

THE FIELD.

The Situation in Hops.

To the Editor:—You quoted me in your issue of July 30th as believing that the hop situation was strong, and I presume that you will be glad to hear that the situation is still stronger and growing more robust daily.

I am not "bulling" the market. We are heavy growers, and we naturally want to realize as much for our crop as the situation warrants.

I spent the 7th, 8th and 9th of August in Oregon viewing the hop crop, and I am convinced that the hop crop will be very considerably shorter than last year. The dry weather continues and crop conditions tend to fewer hops being grown. Yesterday I received two telegrams from reliable people in Oregon. They read as follows: "No rain yet. Hops doing fairly well. Contracts 22 cents and 23 cents offered. Dealers buying hops in yards at $200 per acre. Prospects about the same." To-day I have received telegraphic advice, from a party I know to be reliable, saying that 25 cents is being paid on contract in Oregon.

When I left Oregon hops were only in the burr, except the few yards which were more forward. This means picking will begin September 10th to 15th. If the dry weather continues, the crop may be very much shorter than even now anticipated. If it begins raining first of September, it may keep right on and practically ruin the crop.

When I was there dealers were talking 20 cents for

hops; now they have paid 25 cents. They were then paying $100 to $120 per acre for yards; now they offer $200. Growers can draw their own conclusions.

California has a fairly good crop of hops this season and the growers are entitled to get as full prices for their product as possible.

We are quite willing that dealers should also make a good thing; but, as between the dealer and the grower, I think the latter is entitled to more of the "turkey" this year.

Prices are getting so close to the 25-cent mark that it makes one almost afraid to open telegrams for fear he will have sold his hops and the dealer may be hungry for more at 5 to 10 cents per pound better than one has sold at.

I am not in favor of growers "hanging on" to their crops long after they are harvested; nor is it any wiser to "give them away at half price," as some growers do. The time to sell hops is when you have them and the dealer wants them. As yet we have not the hops, and won't have for thirty days yet. The dealers are very hungry, and we need not be afraid they will have any less of an appetite in three weeks from now than they have at present.

Wheatland, August 18. M. H. Durst.

The Raisin Crop of Malaga.

From the report of Thomas R. Geary, United States Vice-Consul at Malaga.

Present indications point to an average yield of the Muscatel raisin in this province. Unlike the almond crop, the prospects for the raisin can not be ascertained in the early summer months. Reports from the growing sections are that the vines present a fair appearance, slightly less than last year. The fruit is formed, and until quite matured local merchants say it is not safe to make positive forecasts.

The dangers that beset the grape do not appear until the fruit is almost ready for picking in August, when hot winds or rain would do much harm.

Last year at this time the lack of rain led many to believe that an abundant crop, but of a smaller size, would result. The yield was as plentiful as expected, but the proportion of smaller sizes not so great. Current gossip during the past vintage was that many of the Malaga exporters were "caught short" on small sizes by being compelled to fulfill advance sales made in expectation of lower prices.

The crop of last year was approximately 1,100,000 boxes, of which about 25,000 boxes now remain unsold, but none of these will go to the United States.

THE DAIRY.

An Eastern Visitor Makes Some Points.

An Eastern visitor who has been sojourning in Alameda county indulges in comments in a letter to the Breeders' Gazette: I find that milk, butter and cheese, while a shade higher than in Colorado, are still quite reasonable in cost in California. In Oakland you may have a fair quality of milk delivered at your door at about 7 cents a quart, or one quart per day for $2.25 per month. That is what they call the Association rate, for the milkmen of California, like those of many another calling, have combined for self-protection.

If you look about you may possibly find private parties who will sell you milk at 5 cents per quart, but they will not deliver it; you have to go after it. So I imagine that the Association milk is the cheaper.

During the rainy season, when the native pastures are green and flourishing, the milkman's milk is fairly rich, but as the dry season comes on and the pastures turn brown there comes a perceptible falling off in the quality of the lacteal fluid of commerce. I do not find any ranch butter in the Oakland market. It is either creamery or dairy butter. In the height of the grazing season in Colorado ranch butter sometimes gets down to 15 cents per pound and even two pounds for 25 cents, and it is a pretty good quality of butter at that. But on the other hand I have known the same grade of butter to go to 40 cents per pound during the winter season. Such conditions do not appear to exist in California. The price appears to be more uniform, taking one season with another.

Creamery and first-class dairy butter rank in price about the same. The ruling price is about 25 cents per pound. Now and then you may be able to pick up a fair sample of table butter at 20 cents per pound, but such instances are rather rare.

The suburbs of Oakland are full of dairy ranches and the town itself furnishes market for nearly every drop of milk produced. I am told that hardly a single can goes across the bay to San Francisco. The big city gets its milk supply from the mainland, however, the bulk of it coming from Marin, Sonoma and neighboring counties. Recently I dropped in at one of the dairy ranches. It was run by a good-natured German, who was only too glad to accord such information as was asked for. This dairyman was just in the midst of mixing up his soft feed for his cows. He was doing the mixing in a long wooden trough, and the combination feed was as follows: Two parts bran, two parts chopped feed, two parts middlings and one part oilcake. These he mixed up with water and stirred them about until they became of a consistency somewhat similar to mortar that is about ready to use for brick or stone work. This ration he gives to his cows twice a day, or about ten quarts per cow. He feeds it out by dumping each animal's ration from a bucket on top of a foddering of hay lying in front of the stalls. When all of the rations have been distributed the cows are let into the barn to consume their food with a keen relish. The prices he pays for these ingredients are as follows: Middlings $28, bran $24, chopped feed $24 and oilcake $40 per ton.

This dairyman runs from twenty to twenty-five cows and feeds out about three tons of these materials per month. The hay used is what is known as "volunteer," and consists largely of oats. But at the same time there is a mixture of native hay in it, the burr clover largely predominating.

No alfalfa hay is seen among the dairies of Alameda county. The dairymen will tell you that there is a public prejudice against its use. Consumers claim that children do not thrive on milk produced from a feed of alfalfa. This must indeed be a chimera. In Colorado alfalfa has proved to be one of the best feeds in the world for dairy cows. I imagine that a mixture of clover and timothy would be far superior to this "volunteer" California hay. But I suppose that they cannot be obtained. It would require irrigation to produce them and they do not irrigate in Alameda county, whereas, the volunteer oats and native growths flourish even on the steep hillsides. But the hay crop comes on very quickly after the rainy season is over, and the bulk of it is in the stack by the first of June.

The dairyman whom I visited said that he was paying $10 per ton for this volunteer hay; but that was in the field from the baler. He went out among the hay farmers and hauled his hay in, thus making a saving of about $2 per ton. Last year he paid $13 per ton for this quality of hay. This dairyman leases sixty acres of native pasturage and for the greater part of the year has fine feed. He put up his own dwelling, barn and milk houses. When asked how the business paid he said that in order to make money the dairyman and his family must do the bulk of the work. When it came to paying from $50 to $75 per month for a milk driver, and from $35 to $40 per month for milkers, it knocked the profits off.

His cows cost from $40 to $70 per head. His cows are common stock, with now and then a grade Jersey. But his cows were good lookers and were in good condition. He says that his cows give on an average about three gallons of milk per cow per day.

The New Dairy Association.

We mentioned last week the meeting to be held in Sacramento, August 30th, to organize a new State Dairymen's Association. The Ventura Republican says the movement is the outcome of the continual legislation against the dairymen throughout the State by different local health boards, and is, therefore, not only an association for protection of all dairymen's interests, but to establish just and equitable rights to all. The Dairymen's Association of San Francisco, in their struggle for their rights (which lasted ten weeks) against the ever-changing health ordinance as adopted by the city board of health, won their fight on the strength of their not being antagonistic to any ordinance which would insure the production of pure milk under sanitary conditions, but objected to any proposed Eastern copied legislation, without any consideration for the climate conditions.

The preliminary work of organizing is being done by Edward F. Schultz, secretary of the San Francisco Dairymen's Association for the first three years, and it is said that the following are interested in the movement: A. B. Evans, Fresno; A. Meister, Sacramento; J. D. Daley, president of the San Francisco Dairymen's Association; E. S. Babue, secretary of the Oakland Dairymen's Association; Peter Tognazzin, San Luis Obispo; D. Minni, Vallejo; G. R. Sneath, San Mateo; S. Poorman, Alameda; Wm. Johnson, Courtland; Elias Gallup, Kings county; Wm. Russ, Humboldt county. This is the endorsement of all the local dairymen's associations in the State, of which there are eight, together with most of the prominent dairymen throughout the State.

The work of upbuilding is to be carried entirely on educational lines.

THE SWINE YARD.

Pork Making Upon Hotel Wastes.

This subject has been proposed to us several times by those who have material available from the hostelries at our most popular resorts. The effort to make money with such supplies in pork making is not so simple as it would seem at first sight. An experienced Ohio writer for the Breeders' Gazette gives an interesting review of the whole subject in answering inquiries from Duluth. He says: We will not advise a young man without experience to buy pigs or sows of any kind to make a profit on with hotel refuse. It is a more risky business than growing hogs on a farm. One may get the table waste from a hotel or restaurant so cheaply that he can afford to take the risks. The scraps of meats, vegetables and bread are charged with the elements of nutrition, and if one can get them free from other matter, such as broken glass, crockery, acids, alkalis and ferments, all ruinous to the digestive organs of pigs, young and old, he has a source of profit not to be despised.

The Chances.—It is hard to tell whether the successes equal the failures made by men who have attempted to utilize hotel refuse. We find that those who have succeeded have known enough about feeding hogs to know that even one overfed or badly fed may cause great loss. They have found that shoats five or six months old pay better than sows and pigs. Sows do well enough except while suckling the pigs. During that time any derangement of their digestion is quickly detected in the pigs. In addition to this the food is sloppy and the pens wet, so that young pigs easily become chilled, which soon tells on their health. Although old sows and shoats have vitality to resist the chilling effects of sloppy pens, suckling pigs soon succumb if the weather is cold.

Experience.—The table and kitchen wastes of hotels and restaurants contain so much valuable feed that may become a real bonanza to one who has the skill to handle it successfully that we have taken some pains to look up the experience of several feeders. In each case their first efforts were discouraging. One man began on seven acres of land near Knoxville, Tenn., he furnishing the hogs and the hotel man the feed. He soon lost many hogs and was told his hogs had cholera. He thought not. He was satisfied that his losses came from overfeeding. He began feeding big and little in the same lot. The sows got too much; pigs suffered and sows even died, some getting stiff, others lame, and some going down as with kidney worms. By separating the big from the little and feeding moderately in small lots, and even physicking the sick ones with plenty of epsom salts, they all recovered and he made a success after much dearly-bought experience. His conclusion was that it paid well after he had learned to keep only small numbers of hogs of similar ages in one lot and house. He abandoned his effort to feed all in one large house. He had seven acres of land, but thinks if he had enough to furnish good pasture to all his success would be much greater.

Another Case.—Another man has been in the business five years. He had nothing the first and second years, but learned what to avoid. He began by hauling the refuse from hotels and restaurants in a water-tight tank. This he abandoned for covered barrels, that he might better assort the feed. He also paid the cooks and dishwashers to induce them to throw the dishwater, broken glass, empty cans, lye and the like into one barrel and the table scraps and kitchen trimmings into another barrel. He carefully examined all and fed only that which he deemed suitable, and the rest was thrown into a sewer. He was exceedingly careful in starting to feed new purchases only a small amount of the hotel refuse along with dry corn. In the course of ten days or two weeks they received no corn. He found that even brood sows farrowed strong litters and suckled them well. If a sow gets too much the pigs scour in a day or two thereafter. By good judgment and care not to overfeed, and to see that the feed is not too washy, his sows turn off strong litters. He supplements the hotel feed with bran or middlings and corn, as needed. He saves the best for sows and pigs.

Suggestions.—Shoats weighing 100 to 150 pounds are not so easily deranged, yet even these soon show neglect of care in feeding. A run to pasture is a great protection and helps better health and profit. The feeder in question is careful to have plenty of trough room and advises board floor or cement about the troughs, as the hogs will eat even the earth saturated with the juices of meat. In winter he feeds clover hay and in very cold weather adds some corn. He advises finishing by feeding both corn and hotel refuse the last four weeks. In winter the slop is fed warm. All slop is kept well covered to keep out flies. He gets three to four barrels of slop a day, turns off 125 head of fat hogs a year and buys only a boar each year. He is careful to watch for papers, strings, broken glass and crockery. He says his hogs never choke on bones. He finds he does not need to feed salt and ashes or use any lice killers. The alkali and the grease in the slop keep down vermin.

The sleeping places should be separated from the feeding floors and the bedding changed often to keep it dry. Wet bedding is a prolific source of disease, especially with young pigs. One will have to use care to buy healthy hogs and never turn the new purchases into pens with his herd on arrival. The only safe way is to keep the new purchases in an enclosure by themselves for three weeks, after which time, if no disease develops, they may be put in with other hogs.

The average velocity of water in an ordinary ditch or flume is estimated to be about 80% to 84% of its maximum velocity. The average velocity is greater or less according to the character of the bottom and banks or sides of the ditch or flume and to the number and sharpness of the curves.

Agricultural Review.

Butte.

PRUNE CROP LARGE AND PEAR CROP GOOD.—Chico Enterprise, Aug. 19: The prune crop of this season has probably never been excelled and but seldom equaled in this locality. The prunes are of large size and have an excellent flavor, and the trees in this section are loaded with the fruit. It is estimated that there will be fully 175 and possibly 200 cars shipped from Chico within the next few weeks. The almond crop is very small this year, although there will be about 3 carloads shipped from here. The ordinary shipment reaches from 15 to 25 cars. The pear crop is about equal to an ordinary year, and large quantities are being shipped daily to the canneries in other sections of the State. Some of the local growers are drying their pear crop.

Colusa.

JULY STATEMENT OF COLUSA BUTTER CO.—Sun: Amount of cream received, 31,298 pounds; butter made on test, 13,236.14 pounds; amount of over run on 12½% basis, 1654.57 pounds; total pounds butter made, over run added, 14,890.61; price allowed, 21¼ cents per pound; total amount of money paid, $3164.07; best average test, 59%; lowest average test, 21%; charges for making butter and transportation, $353.09; net returns to the patrons, $2810.98; largest amount paid to one patron, $268.87; smallest amount paid to one patron, $5.13.

Humboldt.

CREAMERY PRICES. — Arcata Union: Arcata Creamery, Premium and Peterson & Laurensen all gave the same price for butter fat this month, 21½ cents. Creameries in Eel River valley paid as follows: Abramsen, 22½; Capitol, 23c; Cold Springs, 23c; Crown, 21½c; Eel River, 23c; Excelsior, 22½c; Ferndale, 22½c; Grizzly Bluff, 23c; Pioneer, 23c; Riverside, 22½c; Silver Star, 22½c; White Star, 22c; Cold Brook, 22¾c; Sunset, 22c; Eclipse, 21½c.

WILL COMMENCE SURVEY. — Sacramento Union: Nat Ellery, State Highway Commissioner, will leave for Trinity county about the middle of next week to commence the work of survey on the projected State wagon road that will probably be constructed through Trinity county in order to connect Humboldt county with the rest of the State. At the last session of the Legislature an appropriation was made for the survey and cost of building the proposed road will be computed and reported to the next session of the Legislature, which may make an appropriation for the building of the road. The road will be 45 miles long and will connect with a road in Humboldt county that runs to Humboldt bay.

Fresno

LOW PRICE FOR FIGS.—Sanger Herald: We are informed that the packers are offering only 2c per pound for dried figs, which is a cent lower than last season, consequently many who have contracted for this fruit in various orchards hereabout are anxious to retire from the field this season, rather than lose money on the deal. One of four orchardists avers that he can realize a small profit on figs at 2c, as his children do all the work connected with the picking and curing.

PEACH DRYING.—Peach drying is in full swing in this section, there being an abundance of reliable help for both picking and cutting—in fact many orchardists report that they are receiving more applications for work in the fruit than they can accommodate, which is something unusual. Women and girls are receiving 5c per box for cutting freestone peaches and 8c for clings, easily earning from $1 to $2 a day. There is a peculiar and unusual condition of the peach orchards this year. Nearly all varieties of the fruit are falling from the trees in unusual amounts.

GRAPES AND RAISINS.—The packers are not offering over 2c for the new crop of raisins. Many vineyards are buying up hogs and pigs in large numbers for the purpose of feeding off the second crop on the vines. A number in and around Del Rey have contracted to sell Thompson Seedless raisins at 3c, while others have sold the green grapes at $15@20 per ton.

Kings.

GOOD PRICES.—Hanford Sentinel, Aug. 18: Arizona parties are after the barley crop of Kings county at $1.10 per cental.

FINE WHEAT.—Some of the best looking wheat we ever have seen is being brought in from the lake country. Ernest Howe reports that machines are sacking twenty-five sacks to the acre. Some of the wheat is selling at $1.33 and over per cental.

FALL WOOL SOLD.—J. A. Yoakam of the Pleasant Valley Stock Farm has about 6500 fine sheep on the ranch, and says he will get 35,000 pounds of wool at this clip, and he has already sold it at 8 cents per pound.

Los Angeles.

WALNUT CROP.—A Los Angeles dispatch says: Based on reports from growers and shippers of walnuts, this year's crop is estimated at between 800 and 850 twelve-ton carloads. This is a great advance over the crop of last year, which amounted to 625 ten-ton carloads. The wind and rain storm last Saturday damaged walnut orchards somewhat in this end of the San Gabriel valley, but not enough to affect to any extent this estimate of the season's output.

GUESSES ABOUT THE ORANGE CROP. —Azusa Pomotropic: Mr. Travis, commercial agent for the Southern Pacific, has been touring this valley and estimates the maturing orange crop at 60% as compared with the closing season. Some growers claim 75%.

Napa.

CANNED FRUIT SOLD AT AUCTION.—Register: An auction sale of the fruit saved from the big cannery fire in East Napa was held Thursday. The sale was conducted under the direction of the insurance adjusters and was held on the site of the fire. The entire lot, about 21,000 cases, was sold to Jacob Petosky of San Francisco upon his bid of 50c per case on the grounds. Bidding was started at 25c a case, and while the auctioneer seemingly hesitated on accepting so small a bid Petosky sang out 50c. This frightened the small jobbers off and the entire stock was sold to Jacob Petosky, who made out a check for $2500 on the spot. The entire transaction did not consume more than fifteen minutes.

Sacramento.

BEEFSTEAK TOMATOES.—Union: John McNie of Brighton brought to the city recently a number of tomatoes of the Da Rosa variety, which he has growing on his place, that weigh 2½ pounds each and are so solid and perfect that they are nicknamed the beefsteak tomato, from the fact that they can be sliced up like meat. Mr. McNie regards the tomato as a new variety and is saving the seed for future use.

San Bernardino.

EARLY OPENING ON ORANGES.—Sun: A prominent orange grower and head of a packing house in Highland says that in his opinion this year will be an early one so far as the opening of the packing season is concerned. Already the fruit is of good size and is growing rapidly, and there is every indication that before the end of another three months the packing of this year's crop will have begun. It is too early as yet to give an accurate estimate of the size of this season's crop, but all agree that it will be smaller than that of last year.

VALUABLE HORSE BREAKS ITS NECK. —James McNair is inconsolable over the loss of his splendid driving mare which broke her neck yesterday afternoon, and in the two seconds that it required for the whole incident, McNair lost an animal that he had refused $400 for the day before. He had hitched almost in front of the Owl drug store, when he saw a piece of newspaper blowing down the street—the one thing of which the horse was afraid. Jerking the halter, McNair untied the knot, at the same time reaching for the paper, which split and he caught one piece of it. The other piece struck the mare's legs and she reared, falling to one side, and her neck was broken on the curbing.

San Joaquin.

TO RAISE ANGORA GOATS.—Stockton Independent: The raising of Angora goats promises to become an established industry in the valley. Peter Wilson, a thrifty West Side farmer, has made a start in that direction by buying six female and one male goat. For the ewes he paid $50 each and for the buck $100. They are all imported animals and thoroughbreds.

San Luis Obispo.

FIGHTING TEXAS FEVER.—Sacramento Union: Dr. Charles H. Blemer, State Veterinarian, who has been in San Luis Obispo supervising the dipping of cattle in crude oil to exterminate the tick which breeds and causes the Texas or splenic fever, returned home yesterday and states that the work is being prosecuted in a very satisfactory manner, and that in his opinion it will be only a matter of time when the disease is stamped out in the State. None of the cattle died from the application of the oil. On the contrary, all dipped cattle have improved in health, have taken on flesh and are doing well.

Santa Barbara.

WILL COMPETE WITH PETALUMA.—Lompoc Record: It is estimated that there will be 20,000 laying hens throughout this section the coming winter. The farmers are becoming aware of the profit in the fowl industry and with the specialist are not slow to catching on. Petaluma will have a good rival within the next five years, if the fowl business keeps pace with the present year's hatch. Most of the chicks are from the incubator. Many of our farmers pay running expenses with the egg and fowl product.

POTATOES AND IRRIGATION. — The Schuyler Bros., Eugene and Milton, the largest potato producers in Lompoc section, are growing the sixth crop consecutively on the Gray & Simpson tract, and this year's crop is promising the best of any crop in the six years. They attribute their success to irrigation, which has not been spared at any time when water was obtainable.

OLIVE CROP.—Sacramento Union: Information is received by Hon. Elwood Cooper, Horticultural Commissioner, that the olive crop will this season be below normal and in some sections will be very light. Mr. Cooper accounts for this on the theory that the olive, like other fruit trees, when it bears very heavily one year, takes a comparative rest the next year. He says it is very rare for two heavy crops of olives to come in succession. Last year gave California one of the heaviest crops of olives in the history of the State, and as a result the present is very likely to be an off year.

Santa Clara.

PRUNES. — Los Gatos News: There seems to be a panic among the prune growers to sell their fruit green, and there have been sales as low as $8 per ton. Of course this extremely low price was for very small prunes which were hardly worth the gathering. And there have been several sales of good prunes at from $12 to $14 per ton. There is an indifference on the part of the dryers to purchase, and the pushing of the prunes by the grower has forced the price down. If a grower has a good crop of good size fruit, 1¾ bag basis ought to mean considerably better than $15 per ton green, all things being equal. It is the fear, however, that he cannot sell when the fruit is dried that is forcing him to realize. The dryer who purchases at $10 or $12 per ton can pack and ship them out at 1¾ bag basis and make money; he is, therefore, justified so far as his own personal interests go in selling at this figure, and when we come right down to it there are nine people out of ten who will consult their personal interests first and the interest of the valley second.

Solano.

PEAR BLIGHT.—Dixon Tribune: Owing to the presence of pear blight in the orchards of the county and the spread of the disease in the last year, orchardists are preparing a petition to the present board of supervisors at their next meeting, asking that a county horticultural commission be appointed in accordance with the statutes of 1897.

FRUIT INSPECTOR WANTED.—Sacramento Union: In speaking of the fruit interests of Solano county recently, Acting Governor Anderson said: "Heretofore the orchardists of this county have kept their orchards so cleanly that they have not required the services of an orchard inspector, but now that the pear blight is making its appearance in various sections they have concluded that the services of an inspector will be a good thing to aid in combating the disease, should it make its appearance, and they have applied for such an official. The first step to take is to have the board of supervisors appoint three horticultural commissioners, and they will select an inspector."

Sonoma.

HOPS.—Santa Rosa Press-Democrat, Aug. 19: The hop crop is a fine one this season and in most of the yards the yield is heavy. The price of hops is advancing and prospects for a profitable yield for the growers is very bright. It was learned on good authority Thursday evening that as high as 23½c per pound had been offered in this county. Much interest was aroused among growers by word from Oregon stating that 25c a pound was being offered there to fill some orders from England.

DISPOSED OF SOME HOPS. — Healdsburg Enterprise: Sampson B. Wright has disposed of his interest in this year's crop in one of his hop fields on Santa Rosa creek, containing thirty-eight acres. C. C. Donovan obtained the crop, giving 22½c.

FOUR PRUNES WEIGH ELEVEN OUNCES. — Harvey Dale showed four prunes of the Imperial variety that weighed just eleven ounces. Mr. Dale has an acre and a quarter in prunes; where last year he only harvested two tons, this year he will gather four tons, and this from twenty trees less than last year. The crop all through is of exceptionally good size.

WONDERFUL INCUBATOR. — A hen house is under construction at Petaluma which, when complete, will accommodate 2500 laying hens. Another similar to it will be erected, which will have the same capacity, making a total of 5000 laying hens. When the two houses are complete and in operation, Petaluma will have one of the largest plants on the coast. This season the hatcheries will have a capacity of 25,000 eggs under incubation at one time.

WILL ATTACK SAN JOSE SCALE.—Healdsburg Enterprise: Horticultural Commissioner O. E. Bremmer has received from Washington a colony of Chilochorus similis, an insect which is predaceous on the San Jose scale. He is dividing the colony and will place portions of it in different parts of the county, with the idea of cleaning out the pernicious scale.

HOP GROWERS EXPECT BETTER PRICES.—Santa Rosa special to Sacramento Bee: The hop crop of Sonoma county this season will be the largest of recent years. Preparations are now being made for the harvest. Picking will begin in this valley between September 1st and 10th. It is estimated that the crop will be from a third to a half larger than last year's yield. The price this year is better than for several years past at the opening of the season. Buyers seem anxious to make contracts at 22½c, which is considered a good figure. Most of the growers, however, are holding out for 25c.

Stanislaus.

MONROVIAN BARLEY. — Commercial News: Messrs. Hanslacher & Kahn of Modesto have forwarded to H. C. Bunker, chief inspector of the Merchants' Exchange, a sample of Monrovian or Hanna barley. This barley is very prolific, Mr. N. L. Tomlinson of the Turloch district having harvested 900 sacks from twenty sacks of seeds planted. The original seed was first planted by August Hageman of Livermore, and the seed sown at Modesto was obtained from that point. This barley ripens earlier than the original common barley, and is highly thought of by brewers and malsters.

A PRETTY GOOD SHOWING.—Oakdale Leader: D. S. Stuart has a large number of hands employed in cutting his Muir peach crop. He estimates that his output of dried peaches will be about thirty-five tons, which he contracted to deliver at the Oakdale depot at 5½ cents per pound. This contract was entered into early in the season. His fruit being of high grade would command a better price at the present time. Even at the price paid under the contract he will realize $3800, approximately, for his peach crop alone. This is a pretty good showing for the comparatively small acreage in trees and the amount of capital invested in handling the crop.

Sutter.

FRUIT PRICES.—Yuba City Farmer, Aug. 19: There is but little doing in the dried fruit market at present, as the growers are holding off for higher quotations and the buyers are slow about making prices. Peaches are quoted in the neighborhood of 6c per pound, while prunes are down to a 1¾c basis. Raisins are also dull with a large crop coming on. Apricots are about all taken at good rates, while the fig crop has been contracted for at 2½c. Almonds are all taken at from 2c to 3c in advance of last year. No prices have been made for wine grapes as yet here.

Tehama.

GOOD PEACH CROP.—Red Bluff News: C. D. Davidson of Red Bluff owns a peach orchard 3 miles southwest of town and it is at present yielding some of the finest specimens of peaches seen in this vicinity. The crop consists principally of Muirs, though there is a good showing of yellow Crawfords. The trees are bending and breaking under their wealth of fruit, and this after the first picking of a third or more of the yield. These thrifty trees never fail to yield well, but this year they are producing an unusually fine lot of excellent fruit. Many of the fine large Crawford trees give to the pickers from 500 to 600 pounds of peaches of unexcelled size and flavor.

Horse Owners! Use GOMBAULT'S Caustic Balsam



A Safe, Speedy, and Positive Cure

The safest, Best BLISTER ever used. Takes the place of all liniments for mild or severe action. Removes all Bunches or Blemishes from Horses and Cattle. SUPERSEDES ALL CAUTERY OR FIRING. *Impossible to produce scar or blemish*

Every bottle sold is warranted to give satisfaction Price $1.50 per bottle, Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars.

THE LAWRENCE-WILLIAMS CO., Cleveland, O.

The Home Circle.

Pie.

Why is it no one ever tries
To learn who 't was invented pies?
What woman, beautiful and just,
First rolled, and pinched, and cut the crust,
And, to alleviate distress,
Filled it with pungent happiness?

First, there is juicy apple pie—
For this did Father Adam sigh,
It was no apple, red and sweet,
That led astray his halting feet—
It must have been an apple pie
That loomed before his longing eye.
Such pie—such apple pie, forsooth,
As folks remember from their youth—
A pie with prinked and crumpled edge,
Each slice of which would make a wedge
To fetch one's good intent apart
From any clutch on mind or heart;
It is no wonder, after all,
That Adam was inclined to fall.

Then, there are chicken pie, and lamb,
And oyster, mutton, veal-and-ham,
And currant and goo eberry pie,
Blackberry, prune and cherry pie,
Peach, plum and sweet potato pie—
Say, ever eat tomato pie?
Tomato pie, almost unknown,
Yet it deserves a pastry throne,
For when it grows aright we see
The purple robe of royalty;
And oh, the taste and tang of it
When by a hungry human bit!

Such stuff as dreams: Aye, dreams like these:
That comets are the bits of cheese
And all the planets in the sky,
And little stars, are luscious pie!
Our hearts in gladness to immerse
By eating through the universe!
Oh, one should never criticise
The sober souls who scoff at pies,
Whose views of pies are dark and grim,
For they leave so much pie for him!
Come, build a tablet, set it high;
"To Him or Her Who First Made Pie."
Oh, Pie! Oh, my!

—Chicago Tribune.

The Pride of Ancestry.

Mrs. Geraldine Banks, widow, of Chicago, and her daughter Dorothy were at Rye Beach. Mrs. Banks had enough money—something like three millons—to make her last name eminently fitting. Her father, who had made a fortune in transforming rank Chicago fat into delicate French soap, had given her the millions outright at her marriage with John Banks, now deceased.

Father and daughter didn't see each other often in the later days. They moved in different social circles. Mrs. Banks had a great gray stone palace within sound of the lashing lake waters, while the father preferred to live in something a little bigger than a cottage on the Southwest Side, under the very shadow of the chimneys and within smelling range, so to speak, of the factory that had brought him his fortune.

Dorothy Banks was delightfully pretty, aristocratic looking withal, and as sweetly disposed toward humanity in general as a girl possibly could be whose mother was constantly reminding her of her station in life and that the hoi-polloi were interesting chiefly at a distance.

Mrs. Banks wished her daughter to marry, as she put it, a gentleman and a man of lineage. "I want you to marry a 'Mayflower' man if you can, Dorothy," she said, "a man whose ancestry has been college-bred for generations. But, of course, my dear, he must be all right himself."

There came to Rye Beach that summer young Peabody Standish of Boston. He was "Mayflower" all right, a Harvard man and one whose ancestors' names had been borne on the rolls of that school ever since John Harvard's day. Now, Peabody Standish was a fine young fellow, athletic, handsome and with a manner which New England fogs and frosts had failed to chill.

Peabody Standish and Dorothy Banks met. The Boston man liked the beauty and the breeziness of the Western girl, and Dorothy, with never a thought of what her mother had said about aristocracy and Mayflower lineage, liked the Eastern man for himself.

It is, perhaps, needless to say that Mrs. Banks looked on approvingly. She took pains to find out all about Peabody Standish, and the finding out was satisfactory.

The young fellow from Boston lingered longer at Rye Beach that summer than he had intended. He knew in a general way who Mrs. Banks of Chicago was, for he had a bit of law business with a Chicago client in which some of the Banks' holdings had figured. He didn't make any inquiries. Had he momentarily felt so inclined, a look at Dorothy would have checked him, for she was sweet and winsome enough to make up for a family skeleton in every closet of a Chicago mansion.

Dorothy Banks and Peabody Standish were engaged. Mrs. Banks and her daughter were back in Chicago and the marriage was set for the spring. Once in a while through the window a shadow would come into Dorothy's face. "Mamma," she would say, "we ought to have told Peabody about grandpa. I know he's what you call vulgar, but he's good and kind-hearted and would be affectionate if you'd only let him."

"Your grandfather and Mr. Standish will have to meet some day, Dorothy, but there's no particular hurry about it. I want you to get married first. Your grandfather is going to California in February, and he won't be back till after the wedding, about which, by the way, he doesn't know anything. Everything will be all right if you do as I tell you."

And Dorothy, though secretly troubled, did what long custom had inured her to do—abided by what her mother said.

They were married in April. Peabody Standish, yielding to his mother-in-law's request, agreed to make Chicago his home, and to look after property interests. With Dorothy immediately after the wedding he went abroad and remained there eight months. When they returned to Chicago he secured an office and buckled down to business.

It was Standish's second day at his work. He and Dorothy were living with Mrs. Banks. At five o'clock that afternoon the Banks carriage was sent to Standish's office to take him home. Peabody would have preferred walking, but he took his seat in the carriage and started homeward. At a street corner he saw the bent but sturdy figure of an old man, who was plodding along with his eyes on the ground. Standish looked at the bowed figure for a moment, a pleased look came into his eyes and he shouted a rather peremptory "Stop" to the coachman. Standish jumped from the carriage and in an instant was by the side of the old fellow on the sidewalk and was grasping him by the hand.

"Mr. Chandler, is it really you?" said Standish, with a ring of genuine pleasure in his voice and his eyes fairly dancing.

"Well, bless me, if it ain't young Standish. Yes, it's me, Jabez Chandler, all right, but I didn't suppose you'd remember me."

"Remember you! Do you suppose I'd forget the man who came to my father's reseue and made it possible for me to go through college? Forget you? I should think not."

"Well, Mr. Standish, your grandfather did me a turn in the past, when I was a boy, that I ain't forgot yet, and ain't likely to."

"I looked you up as soon as I reaehed Chicago, Mr. Chandler, and found you were in California."

The old man smiled a little.

Standish beckoned to the coachman. The man drove up alongside the eurb and Standish, turning to the old man, said: "You're eoming home to dinner with me to-night. I won't take no for an answer. You must meet my wife," and Standish fairly forced the old man into the carriage.

They drove along in silence for a few minutes, and then Jabez Chandler said: "I've kept traek of you, Mr. Standish, but I guess you didn't know it. There are some things that even you college fellows can't see through."

The old man had a queer expression on his face as he mounted the steps of the Banks mansion, arm in arm with the younger man. Standish led him into the great room off the hall. The younger man was as exuberant as a schoolboy. "Dorothy," he called, "Dorothy."

Dorothy came from a recess in a dim corner of the room. "Dorothy, I've brought home the best friend, barring my parents. I ever had in my life. This is Mr. Chandler, dear."

Dorothy came forward, her face showing white in the half light of the room, and with a frightened look in her eyes. Then the look fled, she went forward. "Grandpa," she said, and held out both hands. The old man kissed her quickly, with something of yearning in his look.

There was something stern in Standish's face. "Dorothy," he said, "why did I not know this?"

Dorothy turned, and the old man quickly left the room. "You ought to have known, dear," she said. "I don't know what to tell you. We thought—"

"I think I see it, but I don't believe you thought it. You told me something once of your mother's ideas of birth and education and refinement. Thank God, Dorothy, these things don't make a man forget his friends nor make him ashamed of his relatives. I know you're not ashamed, dear; I think I know all about it," and he kissed her softly.

Standish turned from his wife and went straight to the room of Mrs. Banks. He was there about fifteen minutes.

That night in a box at the opera an old man in a business suit sat at the very front by the side of his daughter. Two young people in evening dress, and looking happy, sat just behind. A daughter is a daughter, come what will, and there was actually a soft light that night in the eyes of Mrs. Geraldine Banks, for that day her mind had learned a lesson and her heart had lost a burden.—Edward B. Clark, in Chicago Record-Herald.

The Refrigerator.

The salesman was very busy at the time. He had two customers who wanted refrigerators, and was doing his best to hold them and sell both of them large and commodious ice boxes.

Just about the time when his efforts seemed about to bear fruit a lady approached.

She had a grievance.

Seeing danger to his prospective sales, the salesman tried to postpone hearing the lady's statement until he had finished with his customers.

"Please wait a moment until I am through here," said he. But the lady was not in a mood to wait.

"I've got nothing to say that I am ashamed of," she retorted. "I wanted to know what is the matter with that ice box I bought. Everything I put in it spoils."

"That is very strange," replied the salesman in a conciliatory tone, gently leading the lady from the prospeetive refrigerator customers. "Do you keep the doors closed?"

"Sure, I do," replied the lady, heatedly.

"How much ice do you put in the box?" queried the salesman.

"Ice! Ice!" ejaculated the lady in an injured tone. "I paid $34 for that ice box and now you expect me to buy ice. What do you take me for?"

"And still we wonder at erime," remarked the salesman as the lady walked haughtily out of the store.

One of the bugbears of old-time people is night air, and there is little exaggeration in saying that the superstition against night air has killed more people than the free eirculation of it has ever injured. There is abundance of proof that night air is injurious to no one. On the eontrary, people who sleep outdoors under the mere protection of a tent are the healthiest of all people, and the practiee has largely gained in popularity of late years under wider knowledge of hygiene for people in delieate health to go in camping parties and breathe the balsam of the night air. The vigor gained from a few weeks of such an outing is a marked proof that the old prejudice against night air is as foolish as most other old wives' whims.

Salt—Its Chemical Value in Food.

Every nation in the world prepares its food by some natural chemical instinct, in the way best suited to attain a particular physiological end. The foods of all countries are different; the ways in which they are prepared are different, but the ultimate result of supplying the human body with just the proper kind of nutriment it needs is the same in all, whatever may be the food, whatever may be the manner in which it has been cooked. The Italian mixes rich cheese with macaroni; the American, milk and eggs with his starchy foods; the Irishman, cabbage with his potatoes. And yet all these mixtures are quite similar in their nutritive value. Every nation is a nation of born chemists, blindly making the utmost chemical use of the foods that nature has provided.

It is this innate chemical impulse that drives us all to the use of salt. We share that impulse with the deer, which travels miles to a salt-lick, and with the cattle of the farm. Man and beast have always craved salt; but it is only in comparatively recent times that we have found out the reason. Physiologists have found that more than one-half the saline matter of the blood is made up of common salt. The constant discharge of this matter renders it necessary to seek ever new supplies; hence the uncontrollable desire for salt, felt by wild animals and by man alike.

Although salt has always been commonly regarded as a mere flavor, something of its importance to the human economy seems always to have been known. During the middle ages, criminals and heretics were fed on saltless foods, with the result that they perished miserably in long drawn-out agony. On the other hand, we have it on the word of well-known explorers that certain savage peoples never use salt, and that some even hold it in abhorrence. The chemist, however, easily enough explains these apparent anomalies by proving the presence of liberal quantities of salt in the water these savages drink.

It is the function of salt to supply the juices of the stomaeh with the amount of hydrochloric acid that they require. These juices also contain soda as a special and necessary constituent, and so does the cartilage of the body. For that reason both elements of sodium chloride—as the chemist terms common salt—are indispensable in supplying the healthy body with a proper quantity of inorganic matter. Cut off the supply of salt, and neither the juices of the stomach nor the cartilage of our frames can repair the waste that every living thing undergoes. Is it any wonder that without salt we should die?

If salt is absolutely essential to human existence, how comes it that the excessive use of salted meats as food is so injurious, and that the sailors of twenty years ago, who lived almost entirely on salted meats during a long voyage, suffered much from scurvy? The reason is to be sought not in any peculiar effect of salt on the human system, but in its effect on meat.

No doubt every housewife has observed the change which is produced in meat by salt. It seems as if a sudden heat had shriveled the flesh. The fibers contraet, the volume of the meat is sensibly reduced, and the juice runs out of the pores. Thus it is that seientists account for the faet that, although the salt may be perfectly dry, it is, nevertheless, dissolved by the meat juices into a brine. This extraction of the meat juiees would in itself eause no great harm; but the salt dissolves out the albumen, phosphorie acid, potash and creatin of the flesh—substances whieh eonstitute the most important nutrients. The harm done, therefore, consists in robbing the meat not only of its fluids, but also of the very eonstituents that the human body needs for the preservation of health. That is why long feeding on salted flesh ultimately causes disease. Vegetables containing potash salts and little common salt are then needed to repair the ravages that the body has suffered. If we cannot live on salted food, neither can

we thrive on salted meat, robbed of its invaluable potash.

The object of salting meat is to preserve it. And this is accomplished by the filling of the pores with pure salt, so that the outer air cannot enter and begin its work of decomposition. The effect of a very thorough salting is the extraction of one-third of the savory juices of the meat, the place of which is taken by the salt. The preservation of the meat, therefore, depends upon the exclusion of air, the extraction of the water, the saturation of the juice that still remains in the meat with salt, and the formation of a compound by the meat with the salt—a compound, moreover, that is able to withstand the destructive action of the atmosphere.

The salt of commerce is obtained in three ways—by evaporating the water of the ocean or of inland salt lakes; by evaporating the water which bubbles up naturally in salt springs, or which is brought to the surface by boring deep into the earth; and by mining the solid material or rock-salt.

At one time much salt was obtained from sea-water. To this day, sea-water is still evaporated in China, Spain, Italy and the southern part of France. By far the greater part of the salt of commerce is obtained from brine-springs, natural or bored. Powerful engines pump out the brine into large open tanks, where it is evaporated either by artificial heat or the heat of the sun. The evaporation is carried on until a point is reached at which the proportion of water is too small to hold the mineral in solution, so that it solidifies in the form of crystals. These crystals are allowed to accumulate until the solid matter in the pan is equal to about three-fourths of its contents. In making table-salt, the crystals are removed from the pans, permitted to consolidate, and then dried in a stove. Very coarse salts are simply drained and then completely dried by heat. In making two tons of common salt it is necessary to burn about one ton of coal.

Rock salt is mined very much in the way that coal is mined. But the salt mine is in every way a less grimy spot. The air is dry, sweet and cool. The mine walls and pillars of salt by which they are upheld display a thousand iridescent hues, so that they appear to be literally studded with beautiful, sparkling gems. To the man or woman of an imaginative turn of mind, the sight is one that recalls the fabled splendors of the magical palaces of Aladdin. — The Twentieth Century Home.

Beauty Making Foods.

"The best of all beauty making foods are fresh fruits and fresh vegetables," said Prof. H. W. Wiley, the famous Government chemist, who is incidentally a skilled physician. "They contain relatively a little nourishment — a woman could hardly live on them exclusively for any length of time - - but for reasons which as yet are imperfectly understood, they possess extraordinary values as health givers. If you want bright eyes and a clear complexion, eat plenty of them."

The fact is that most fresh vegetables and fruits are nearly all water. Spinach is 92½% water, cabbage is 77% water, beets are 88% water, carrots are 91% water, cauliflower is 91% water, cucumbers are 96% water, egg plant is 93% water, onions are 78½% water, tomatoes are 96% water, green corn (cut from the cob) is 81½% water and celery is 94½% water. Fruits are pretty nearly all water, though the banana is relatively rich in starch.

Fruits and vegetables, then, are of no great use in supporting the human body. Their value is mainly medicinal, and as beauty makers they are the chief among food. It is almost impossible to eat too much of them in a fresh state, though, of course, the diet must include a reasonable proportion of those substances, such as meat, which furnish blood and muscle tissue.

THERE is a merchant in New York who has made a fortune by the sale of celery. For twenty years he has handled nothing else. In season he buys it in carload lots. Out of season he keeps large quantities frozen in ice, for which he obtains big prices. The celery comes out as brittle as glass.

Domestic Hints.

TURKEY HASH. — Mince one pint of cold turkey; add one-half cup of turkey stock. Heat it very hot in a saucepan. Lay a large spoonful on a round of toasted bread; continue, until all is used. Put a sprig of parsley on the top of each and serve.

CABBAGE AND POTATO SALAD.—Take one cup of chopped white cabbage, one pint of potato, diced, and mix with cream dressing. Add capers, boiled beets, diced, and chopped red peppers to taste. Garnish with crescents of lemons and watercress or celery tops.

POACHED EGGS. — Separate white from yolk; beat the white to a froth, add a pinch of salt and turn into a pan of salted boiling water. When thoroughly cooked, place on a slice of buttered toast. Drop the yolk into the same water, cook three minutes and place it unbroken in the center of the white. Season with pepper and serve.

SWEETBREADS WITH CHAFING DISH. —Mince very fine two sweetbreads that have been very carefully prepared and thoroughly parboiled; add a tablespoonful of Parmesan cheese grated, a little salt and cayenne and the beaten yolks of two eggs; mix thoroughly. Put into the chafing dish two tablespoonfuls of butter; when very hot, pour in the above mixture; let it brown slightly and serve hot.

SALMON TURBOT.—Put a tablespoonful of butter in a double boiler. When melted mix in one tablespoonful of flour and add one pint of milk. Cook until quite thick. Then take one can of salmon and make in baking dish, putting in one layer of salmon, then one with thickened milk, with two hard-boiled eggs chopped into it, salmon again, then milk, and so on until all is used. Sprinkle breadcrumbs on top and bake until brown in hot oven.

Hints to Housekeepers.

The old idea of putting oilcloth under the washstand cover is now adopted for doilies on highly polished tables.

Raisins for fruit cake are much improved by cooking. Let them soak slowly and then simmer until the skin is tender.

If silver is washed every week in warm suds containing a tablespoonful of ammonia the polish can be preserved for a long time.

Chamois is one of the few things which come out smooth and soft from washing if wrung directly from the soapsuds without rinsing in clear water. The latter process tends to harden it.

Sliced young onions and ripe olives make an excellent spring salad. The ripe, black olives are to be had in large grocery stores. The taste for them sometimes has to be cultivated, but once the palate becomes accustomed to them the green ones seem insipid.

One of the reasons why spinach is such a valuable food is that it is such an excellent butter carrier. City dwellers need more fats than most of them get, and butter is almost the best fat in the world. Oil is better, but it is too expensive for evevy one to use.

The woman who keeps house with a cellar should pay it a daily visit and see that it is aired, even if she has to neglect her parlor. Enough germs may lurk in the willing leaves of a cabbage or a handful of decaying potatoes to cause inexplicable illness in her family.

Salted pistache nuts are delicious for the teatable. The nuts may be had at any of the pretentious fruit stores, and down town they are sold on the street by swarthy and picturesque Turks. The nuts should be carefully cracked, or, better still, split with a small knife, and the outer skin removed. Heat slowly in a cool oven, and shake in fine salt.

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WANTED—SINGLE MAN OF EXPERIENCE, energy and ability, to act as foreman on large fruit ranch in S. J. valley. Must be thorough in viticulture, horticulture and general farming. Permanent place and good wages for right man. Address Box 18, care of this office.

Single man of experience in looking after orchard and drying fruit would like position as foreman.
Address Box 29, care of this office.

The Markets.

San Francisco Produce Report.

San Francisco, August 24, 1904.

CHICAGO WHEAT FUTURES.

Wheat futures in Chicago were as follows for the week named, price being for No. 2 Red per bushel:

	Sept.	Dec.
Wednesday	$1 05⅞@1 09⅝	$1 06 @1 10
Thursday	1 09 @1 06½	1 09½@1 06½
Friday	1 07⅝@1 10½	1 08⅛@1 12½
Saturday	1 08⅜@1 11½	1 10⅞@1 13⅝
Monday	1 08¼@1 12	1 09¾@1 14
Tuesday	1 07¾@1 09¼	1 08⅝@1 10½

CHICAGO CORN FUTURES.

Prices of futures on No. 2 corn per bushel in Chicago were as follows for the week:

	Sept.	Dec.
Wednesday	54¼@55¼	53½@55
Thursday	54⅜@54⅝	53¼@53⅜
Friday	54⅛@53¼	53¼@52¼
Saturday	53⅝@54¼	52⅞@53¾
Monday	53¾@54⅝	52¾@54
Tuesday	54 @56⅛	53 @54¾

SAN FRANCISCO WHEAT FUTURES.

The range of values in San Francisco for No. 1 White wheat per cental was as follows:

	Dec., 1904.	May, 1905.
Thursday	$1 50⅜@1 48⅝	$——@——
Frida	1 51 @1 52½	——@——
Saturday	1 53 @1 51½	——@——
Monday	1 50¾@1 52¼	1 53 @——
Tuesday	1 52⅛@1 51	——@——
Wednesday	1 49¼@1 47½	——@——

Wheat.

Speculative values for wheat have shown further improvement the past week, the Chicago market taking the lead and wheat values in other centers being more or less affected, but as for some weeks preceding strength has been more pronounced in America than in Europe. The increased strength developed was based principally on injury from rust aud low temperature in the wheat section of the great Northwest on the other side of the Rockics, the damage being generally reported greater the past week than previously estimated. It is believed the United States will show a decrease in yield of 35,000,000 to 40,000,000 bushels, as compared with last year. In a few weeks more, will he definitely known. Tbat the crop of the wheat district designated as the Northwest on the other side of the Rockics has suffered seriously from rust and will be comparatively light there is no doubt. The exact amount of the damage and the effect of the same on future prices of importing countries remain to be determined. The outlook is certainly for a firm market. In this center shippers are doing practically nothing and millers are buying sparingly at extreme prices ruling. The Chicago speculative market broke badly to-day, but the local spot market was not materially lower.

California Milling	$1 50	@1 60
Cal. No. 1 shipping, alongside	1 40	@1 45
Oregon Club	1 37½@1 45	

PRICES OF FUTURES.

During past week the range on options was:
December, 1904, delivery, $1.53@1.47½.
May, 1905, delivery, $1.53@——.
Wednesday, at the forenoon session of Exchange, December, 1904, wheat sold at $1.49¼@1.47½; May, 1905, $——@——.

Ocean freights and prices for wheat, as compared with a year ago, are as follows:

	1903-04.	1904-05.
Liv. quotations	6s8d @6s8½d	–s–d@–s–d
Freight rates	15½@16¾s	22½@—s
Local market	$1 47½@1 50	$1 40@1 45

Flour.

Owing to the stiffer prices lately established for wheat, the flour market has been tending against buyers. There are some old stocks here, however, which are selling at prices close to the figures nominally current for same flour several months ago. Increased shipments are being made to the Orient, mainly to Hongkong and Shanghai. For some Dakota hard wheat flour, imported bere for certain bakers' trade, as high as $7 per barrel is now being asked.

Superfine, lower grades	$3 25	@3 50
Superfine, good to choice	3 50	@3 75
Country grades, extras	4 25	@4 50
Choice and extra choice	4 50	@5 00
Fancy brands, jobbing	5 00	@5 25
Oregon, Bakers' extra	3 75	@4 25
Washington, Bakers' extra	3 75	@4 40

Barley.

Market for desirable qualities has presented a rather firm tone, although in the matter of quotable values there have been no pronounced changes since date of last review. More barley has been lately changing hands in the interior than in this center, and in some instances at relatively better values than have been quotable here. Considerable is being shipped from the southern part of the State into Arizona, and this will likely continue to be the case throughout the season. There is not much high-grade barley offering from any quarter. Some barley is going forward by steamer to the Far East.

Feed, No. 1 to choice	$1 07½@1 10	
Feed, fair to good	1 03¾@1 06¼	
Brewing, No. 1 to choice	1 10	@1 17½
Chevalier, No. 1 to choice	1 20	@1 30
Chevalier, common to fair	1 00	@1 10

Oats.

Receipts are of only moderate volume for this time of year. The demand is fairly active, and prevailing values are being well maintained, especially for the better grades. Choice oats suitable for seed are in request at comparativey stiff prices.

White oats, fancy feed, old	$1 35	@1 40
White, good to choice	1 30	@1 35
White, poor to fair	1 20	@1 27½
Milling	1 30	@1 35
Black oats	1 20	@1 55
Red, fair to choice	1 20	@1 45

Corn.

There are moderate quantities of Eastern on market, but not much California product of any description. The Eastern corn now here represents prior arrival purchases by dealers at comparatively stiff prices and is being held decidedly steady. Quotable values remain much as last noted.

Large White, good to choice	$1 47½	@1 55
Large Yellow	1 47½	@1 55
Small Yellow	1 60	@1 65
Egyptian White	1 30	@1 35
Egyptian Brown	1 22½@1	27½
Eastern, in bulk	1 37½@1	45

Rye.

Demand and offerings are both of rather limited volume. Values are ruling steady.

Good to choice	$1 30	@1 35

Buckwheat.

None on market at present. Millers name $2.25 as a nominal quotation for choice.

Beans.

There has been a little more inquiry for white beans the past week and values have ruled slightly firmer, especially for Large Whites. Market for Limas continues firm. Prices for Black-eyes have been inclining upward. Some operators who have no Pinks are quoting $3.40@3.50, while holders are asking $3.65 for choice and as high as $4 on filling of small orders.

Pea, fair to good, 100 lbs	$2 90	@3 15
Small White, good to choice	2 90	@3 15
Large White	2 30	@2 50
Pinks	3 40	@3 60
Bayos, good to choice	2 30	@2 50
Red Kidneys	4 50	@5 00
Reds	4 25	@4 75
Limas, good to choice	3 75	@——
Black-eye Beans	2 40	@2 50

Dried Peas.

There is some inquiry for good to choice Green and market is showing more steadiness. Niles are out of stock. Garbanzos are scarce and could be readily placed at full current q uotations.

Green Peas, California	2 00	@2 50
Garbanzos, Large	3 25	@3 50
Garbanzos, Small	3 00	@3 25

Hops.

The market appears strong. Recent advices report 25c being bid in Oregon for new crop on English account. Choice California should certainly command as good figures. The yards in this State are reported to be in generally first-class condition, and the crop so far as harvested is turning out fine, both as to quantity and quality. The New York Producers' Price Current of recent date says: "The market here continues quiet, brewers not buying much as they are awaiting the advent of the new crop. Stocks of 1903 here, however, are so small that prices are holding firm. Reports from England indicate no improvement in the conditions and some authorities now claim that 380,000 cwts. may be the outside figure. On the Continent, however, conditions are much better, especially in Austria and Belgium, and it is now estimated that the Continent will have between 150,000 and 200,000 cwts. more than last year. Picking of the early varieties has commenced on the Continent. In New York State crop continues as well as before and picking of seedlings has begun."

California, good to choice, 1903 crop	25	@27½

Wool.

Dealers are through their interior agents and representatives buying Fall clip wherever opportunity offers to secure the same at prices in their favor, negotiating for the wool in many instances before it is sheared. But they are posing quietly here, very few naming quotations. Fall wool should bring materially better prices then last year, quality being the same. A shipment of 72,000 pounds grease wool went forward by steamer last Saturday for New York. Quotations a year ago for Fall clip in the San Francisco market ranged from 8@11c for San Joaquin and Southern, as to condition.

SPRING.

Northern, free	22	@—
Northern, defective	17	@20
Oregon, good to choice	20	@22
Nevada	15	@20

FALL.

Foothill	14	@17
San Joaquin and Southern, free	12	@14
San Joaquin and Southern, defective	8	@10
Southern lambs, as to quality	8	@14

Hay and Straw.

The local hay market shows much the same depressed state as previously noted, being especially weak for medium and lower grades. The choicest Wheat and Tame Oat hay are selling fairly well, these kinds being most in favor. Alfalfa is arriving quite freely, but is in fair demand at the prices ruling. Straw is in increased supply and market easier in tone.

Wheat, good to choice	$12 00	@13 00
Wheat and Oat	8 50	@11 00
Tame Oat, fair to choice	7 50	@11 50
Wild Oat	7 00	@ 8 50
Barley	7 00	@ 9 00
Alfalfa	9 00	@11 00
Compressed	10 00	@13 00
Straw, ₱ bale	40	@ 65

Millstuffs.

There have been no special changes in the market for Bran and Middlings, either in quotable values or the general tone, since date of last report. Stocks are of fair volume, especially of Bran, but are mostly in few hands. Values for Rolled Barley and Milled Corn are being well maintained at the quoted range.

Bran, ₱ ton	$20 50	@21 50
Middlings	25 00	@28 00
Shorts, Oregon	21 50	@22 50
Barley, Rolled	22 50	@23 50
Cornmeal	31 50	@32 50
Cracked Corn	32 00	@33 00
Oilcake Meal	31 50	@33 00

Seeds.

Mustard Seed is in fair request and no great quantity offering, either spot or to arrive. Especially is the Tricste variety in light supply. Not much Alfalfa here and naturally very little inquiry for the same at this time of year.

Alfalfa, Cal., good to choice	$14 00	@16 00
Flax	1 80	@ 2 35
Mustard, Yellow	3 25	@ 3 50
Mustard, Trieste	3 25	@ 4 50
		Per lb.
Canary		7 @—
Rape		1¾@ 2½
Hemp		3½@—
Timothy		5 @ 5½

Honey.

Business is of a light order. There is considerable Amber honey offering, including some from the Hawaiian Islands, but stocks of choice Water White are of light proportions, and market for latter sort is rather firm; to purchase freely an advance on quotations would have to be paid.

Extracted, White Liquid	5½@ 6½
Extracted, Light Amber	5 @ 6
Extracted, Amber	4 @ 4½
Extracted, Dark Amber	3½@ 3¾
White Comb, 1-frames	12½@13
Amber Comb	9 @11

Beeswax.

No trouble in securing custom at current rates for desirable stock. Some of superior quality, suitable for dentists' work, is bringing 35c in a jobbing way.

Good to choice, light ₱ lb	29	@30
Dark	27	@28

Live Stock and Meats.

Market for choice Beef is firm, but common qualities incline in favor of buyers. Small Veal in prime condition sells to fair advantage. Mutton and Lamb are offering in sufficient quantity for current needs, and market is without special firmness. Hogs are in fairly liberal receipt, with market tolerably steady at last quoted decline.

Allowing for the shrinkage of about 50%, which is exacted in buying cattle on the hoof, live cattle command as much or more per pound than dressed beef, the shrinkage exacted being the slaughterers' profit.

The following quotations for beef and mutton are based on prices realized by slaughterers from wholesale dealers:

Beef, 1st quality, dressed, net ₱ lb	5½@ 6½
Beef, 2nd quality	4½@ 5½
Beef, 3rd quality	4 @ 5
Mutton—ewes, 6@6½c; wethers	6½@ 7
Hogs, hard grain, 140 to 200 lbs	4¾@—
Hogs, large, hard, over 200 pounds	4¾@ 4⅝
Hogs, small, fat	4¼@ 4½
Veal, large, ₱ lb	6 @ 7
Veal, small, ₱ lb	8 @ 9
Lamb, spring, ₱ lb	8½@ 9

Hides, Skins and Tallow.

Demand continues good for Hides in prime condition. Current values on Pelts are being fairly well maintained. Tallow is without quotable change; tolerably heavy shipments are being made outward by sea.

Nothing but select hides, clean and trimmed will bring full figures. Culls of all kinds, either from grubs, cuts, hair slips, side brands or murrain, are not always readily placed at the lower figures.

	Sound.	Culls.
Heavy Steers, over 56 lbs	— @10	— @ 9
Medium Steers, 48 to 56 lbs	— @ 9	— @ 8
Light Steers, under 48 lbs	— @ 8½	— @ 8
Heavy Cow Hides, over 50 lbs	— @ 8½	— @ 8
Light Cow Hides, under 50 lbs	— @ 8½	— @ 8
Stags	— @ 6	— @ 5
Wet Salted Kip	— @ 9½	— @ 8½
Wet Salted Veal	—@10	— @ 9
Wet Salted Calf	—@11	—@10
Dry Hides	—@16	—@15
Dry Kip and Veal, 11 to 16 lbs	—@13	—@12
Dry Calf, under 4 lbs	—@18	—@16
Pelts, long wool, ₱ skin	1 00@1 50	
Pelts, medium, ₱ skin	70@ 90	
Pelts, short wool, ₱ skin	40@ 65	
Pelts, shearling, ₱ skin	15@ 30	
Horse Hides, salted, large prime, each	2 75@——	
Horse Hides, salted, medium	2 50@——	
Horse Hides, salted, small	2 00@——	
Horse Hides, dry, large	1 75@——	
Horse Hides, dry, medium	1 50@——	
Horse Hides, dry, small	1 00@——	
Tallow, good quality	4 @4½	
Tallow, poorer grades	2½@3½	

Bags and Bagging.

The Grain Bag season is about ended and there are plenty still on hand. Market for other bags and bagging is quiet, values remaining without quotable change.

Bean Bags	4¼@5	
Fruit Sacks, cotton	6¾@6¾	
Fruit Sacks, jute, as to quality	5¾@7	
Grain Bags, Calcutta, 22x36, spot	5⅛@5⅜	
Grain Bags, San Quentin, ₱ 100	4 75	@—
Wool Sacks, 4-lb	32	@—
Wool Sacks, 3½-lb	30	@—

Poultry.

Market presented a little better tone than preceding week for chickens in prime to choice condition, such being in improved demand and not in very heavy supply. Small and poor poultry went at fully as low figures as last quoted and was not readily placed. Demand for Turkeys was quite limited for either young or old. Ducks were in moderate request, with inquiry mainly for large and fat young. Geese and Goslings were in light receipt and choice met with a rather firm market. Prices for Pigeons ruled much the same as preceding week, the inquiry being principally for young showing full growth.

Turkeys, Young, ₱ lb	$ 21	@ 25
Turkeys, live gobblers, ₱ lb	15	@ 17
Turkeys, live hens ₱ lb	15	@ 17
Hens, California, ₱ dozen	4 00	@ 4 50
Hens, large	5 00	@ 5 50
Roosters, old	4 00	@ 4 50
Roosters, young (full-grown)	5 50	@ 6 00
Fryers	3 50	@ 4 50
Broilers, large	2 50	@ 3 00
Broilers, small to medium	2 00	@ 2 50
Ducks, large, old, ₱ dozen	4 00	@ 4 50
Ducks, large, young, ₱ dozen	4 50	@ 5 50
Geese, ₱ pair	1 75	@ 2 00
Goslings, ₱ pair	1 75	@ 2 25
Pigeons, old, ₱ dozen	1 25	@ ——
Pigeons, young	1 50	@ 1 75

Butter.

Market is heavily loaded with fresh butter not fine enough for the best trade, and still far from being poor. Buyers content with this sort were able to operate to decided advantage, dealers being anxious to reduce holdings. Considerable cold storage butter is being placed, both California and Eastern, and is interfering with the sale of fresh.

Creamery, extras, ₱ lb	26	@—
Creamery, firsts	24	@25
Creamery, seconds	22	@23
Dairy, select	23	@24
Dairy, firsts	22	@23
Dairy, seconds	19	@21
Mixed Store	13½	@14

Cheese.

Choice to select mild-flavored new flats are not in heavy stock, but other grades are in more than ample supply for immediate needs. Young Americas of desirable quality are not plentiful and are bringing comparatively good figures.

California, fancy flat, new	9½	@10
California, good to choice	9	@ 9½
California, fair to good	8½	@ 9
California, "Young Americas"	10	@11½
Eastern	10	@13

Eggs.

Prices for choice to select fresh were further advanced the current week, as high as 32½c being asked by jobbers, but sales, even in a small way, were not readily effected at this figure. Much of the trade is being diverted to cold storage and Eastern eggs. Some brown Eastern of very good quality are going to retailers and large consumers at 25c. Some cold storage white eggs are being palmed off on unsuspecting buyers as fresh.

California, select, large, white and fresh	31	@—
California, select, irregular color & size	26	@29
California, good to choice store	21	@23
Eastern firsts	22	@24
Eastern seconds	19	@21

Vegetables.

There were fairly liberal supplies of most kinds in season, especially of common grades. For choice to select qualities there was a fair demand at much the same range of prices as prevailed the preceding week, some of superior quality going at an advance on quotable rates. The Onion market was not very heavily stocked, but supplies proved ample for the immediate demand at full current figures.

Beans, Lima, ₱ lb	2½@	3½
Beans, String, ₱ lb	1½@	3
Cabbage, choice garden, ₱ 100 lbs	75 @	1 00
Corn, Green, ₱ crate	75 @	1 25
Cucumbers, ₱ box	25 @	50
Egg Plant, ₱ box	40 @	65
Garlic, new, ₱ lb	3½@	4½
Okra, Green, ₱ box	40 @	65
Onions, Yellow Danver, ₱ ctl	1 10 @	1 35
Peas, sweet garden, ₱ lb	2½@	3½
Peppers, Green, ₱ box	30 @	60
Summer Squash, ₱ box	30 @	60
Tomatoes, River, box	30 @	60
Tomatoes, Bay, ₱ box	50 @	70

NOTE.—Large boxes are what are known to the trade as "pay boxes," which have to be returned or paid for. They are open top, with hand holes in the ends, and weigh when filled from 50@60 lbs gross. Small boxes are free boxes, about the same as the regular fruit box, weighing when full from 20 to 30 lbs. gross.

Potatoes.

The market for potatoes showed somewhat improved condition, the demand being better, enabling receivers to clean up a large percentage of previous accumulations. The improvement was not so much in quotable values as in general tone. Sweets were in fairly liberal supply and prices averaged lower than last quoted.

Salinas Burbanks, ₱ cental	1 00	@ 1 25
Potatoes, white, ₱ cental	80	@ 1 10

Early Rose, ₱ cental	75	@	90
Garnet Chile	75	@	90
Sweet Potatoes, ₱ lb	2	@	3

Fresh Fruits.

Receipts of nearly all leading varieties of deciduous fruits showed decrease, as compared with preceding week, but only for choice to select going on shipping orders, or required for immediate local consumption, did the market display any particular firmness. For offerings in bulk there was not much competition between heaviest buyers, canners almost without exception bidding low figures. For No. 1 Bartletts canners quoted $20@25 per ton, and not over $30 for choice, but other buyers paid an advance of about $5 per ton on these figures. The canning trade quoted as low as $30 per ton for Clingstone Peaches, despite their scarcity, but there was no evidence of the canneries securing any at above price, as choice Clingstones were salable at $40@50 per ton, with a possibility of still better prices for select qualities. The quotable range on Freestone Peaches in bulk was $25@35 per ton, as to quality and kind. For Green Gage and Washington Plums and Hungarian Prunes the canners quoted $15 per ton, but choice of either sort commanded up to $20 in bulk, with more asked for select in limited quantities. For choice Burbanks $1@1.25 per free box was realized. Apples of high grade were in light supply and fair request at fully as good figures as previously quoted. Grapes were offered rather freely, but it was the exception when the quality was the best, and for the ordinary run of offerings the market was devoid of any special firmness. Melons were in decreased supply and brought improved figures, although cool weather operated against active inquiry. Berries did not make much of a display and choice of most kinds in season sold to fair advantage.

Apples, Gravenstein, ₱ 50-box	1 10	@	1 50
Apples, good to choice, 50-lb. bx	75	@	1 00
Blackberries, ₱ chest	2 00	@	3 50
Cantaloupes, ₱ crate	50	@	1 25
Crabapples, ₱ large box	75	@	1 00
Figs, Black, 2 layers	50	@	75
Figs, Black, ₱ drawer	40	@	50
Figs, White Smyrna, ₱ small box	40	@	65
Grapes, Black, ₱ crate	40	@	75
Grapes, Muscat, ₱ crate	60	@	75
Grapes, Seedless, ₱ crate	40	@	75
Grapes, Tokay, ₱ crate	50	@	90
Huckleberries, ₱ lb	7	@	9
Nutmeg Melons, ₱ box	35	@	50
Peaches, freestone, ₱ pay box	65	@	1 25
Peaches, freestone, ₱ free box	35	@	85
Peaches, Clingstone, ₱ free box	75	@	1 25
Pears, No. 1 Bartlett, ₱ 40-lb box	75	@	1 15
Pears, Bartlett, No. 2, ₱ box	25	@	40
Pears, Bartlett, No. 1, ₱ ton	25 00	@	27 50
Plums, Large, ₱ box	30	@	75
Plums, fancy varieties, ₱ 20-lb bx	75	@	1 25
Plums, in bulk, ₱ ton	8 00	@	15 00
Prunes, ₱ box	30	@	65
Quinces, ₱ box	65	@	80
Raspberries, ₱ chest	5 00	@	8 00
Strawberries, large, ₱ chest	2 50	@	5 00
Watermelons, ₱ doz	1 00	@	3 00

Dried Fruits.

The market for cured and evaporated fruits is not showing any great activity in this center or any pronounced fluctuations in values. There is a fairly active demand in the interior for Apricots, Peaches and Pears, and at fully as good average figures as have been current any time this season. Fine Apricots are especially sought after, and could not be purchased freely without the payment of a substantial advance on established quotations. Prevailing values on Peaches are being well maintained on desirable qualities, carload lots being generally held at a moderate advance on the range of prices below noted. New crop Pears are on market in limited quantity and are expected to be soon offering quite freely. Present offerings are mostly only standard grade, while the inquiry is largely for choice to fancy, with the firmness of the market confined mainly to stock of latter sort. Nothing of consequence has been yet done in this season's Plums and values for the same at present are not very clearly defined. Figs remain quotably as last noted, with market easy in tone. Prune market continues slow and devoid of strength. Santa Clara fours in bags are not quotable over 1¼c. in carload lots, Oct. delivery. The large sizes are commanding a premium of ¼c. to ½c., the latter principally for 30–40s. The steamer Ventura for Australia carried 35,000 lbs. dried fruit, including 15,000 lbs. Prunes. The steamer Umatilla took for British Columbia 12,500 lbs. dried fruit, 6,900 lbs. being Prunes.

EVAPORATED OR BLEACHED.

Apples, 50-lb boxes, rings, pressed, good to choice	5¾	@	6¼
Apples, extra choice to fancy, 50-lb boxes	6½	@	7
Apricots, Moorpark	8	@	11
Apricots, Royal, good to choice, ₱ lb	7½	@	8½
Apricots, Royal, fancy	9½	@	10¼
Figs, 10-lb box, 1-lb cartons	50	@	65
Nectarines, Red, ₱ lb	5	@	—
Nectarines, White and Yellow	5½	@	6
Peaches, unpeeled, good to choice	5¾	@	6½
Peaches, unpeeled, fancy to extra fancy	7	@	8
Pears, standard, ₱ lb	5½	@	6
Pears, choice to fancy	7	@	10
Pears, extra fancy	10	@	11
Plums, Black, pitted	5½	@	6½
Plums, Red, pitted	7	@	8
Plums, Yellow, pitted	6½	@	7½
Prunes, Silver, good to fancy	4	@	7

Prunes, in bags, 4 sizes, 1⅝@1¾c; 40–50s, 3⅛@3¾c; 50–60s, 2⅞@3⅛c; 60–70s, 2⅝@2⅞c; 70–80s, 1⅞@2⅛c; 80–90s, 1⅝@1⅝c; 90–100s, ⅞@1⅛c; small, ⅜@⅝c.

COMMON SUN-DRIED.

Apples, sliced	3½	@	4¼
Apples, quartered	3½	@	4½
Figs, White, in bulk	3	@	3½
Figs, Black	2½	@	4

Raisins.

Market for new is being seriously handicapped at present by the heavy carry-over stock. The steamer Ventura carried 40,000 lbs. for Australia. Movement on local account is light.

The following quotations are based on prices at packing points for carload lots of 1904 crop, October delivery:

Standard Grades—	50-lb. cases, Per lb.
2-Crown Loose Muscatels	2¾c
3-Crown Loose Muscatels	3¼c
4-Crown Loose Muscatels	4 c
Seedless Loose Muscatels	2½c
Seedless Sultanas, Unbleached	3¼c
Seedless Thompson's, Unbleached	4½c
Woodland Sultanas, bleached	3½@5 c
Woodland Thompson's, bleached	4½@8 c

SEEDED.

Fancy 16-oz. Cartons, ₱ lb	5¼c
Fancy 12-oz. Cartons, ₱ pkg	4¼c
Fancy Bulk Cartons, ₱ lb	5 c
Choice, 16-oz. Cartons, ₱ lb	4¾c
Choice, 12-oz. Cartons, ₱ pkg.	3¾c
Choice, Bulk Cartons, ₱ lb	4½c

Citrus Fruits.

Valencia Oranges are in fair supply, and are being steadily held, but demand for them is not brisk, other and more seasonable fruit being abundant and cheap. Market for Lemons shows no quotable changes, but stocks are sufficient for a much more active movement than is being experienced. Limes in prime condition are higher, latest arrivals being in poor order and have to be repacked.

Oranges, Valencias, ₱ box	1 50	@	2 75
Lemons, California, select, ₱ box	2 50	@	—
Lemons, California, good to choice	1 75	@	2 25
Lemons, California, fair to good	1 25	@	1 75
Limes, Mexican, ₱ box	4 50	@	5 00

Nuts.

Almond prices have been further advanced. Most of the crop has been bought up and dealers are unloading some early purchases at a handsome profit. It is reported unofficially that the market for new crop Walnuts will open at about 12c. wholesale for No. 1 soft-shell. Peanuts are in light stock and market is firm.

Nonpareil Almonds	16	@17
I X L Almonds	13½	@14½
Ne Plus Ultra Almonds	13	@14
Languedoc Almonds	10½	@11½
Peanuts, fair to prime	5	@ 5½

Wine.

The wine market has developed no pronounced changes since last report. Dry wines of last vintage are obtainable from first hands down to 15c per gallon, San Francisco delivery, and are not quotable over 17c wholesale. The grape crop is not turning out as well as expected early in the season. Some of the berries were badly shrunken through unfavorable weather during the growing period, and injury from mildew is greater than was generally estimated. Growers in Sonoma and Napa counties expect to realize, $15@$18 per ton for grapes, but there are no evidences of buyers having as yet made any prices. Sweet wines of last year are held at 30c per gallon, winery delivery. Receipts of wine at San Francisco last week were 219,475 gallons and for previous week were 331,750 gallons. The steamer City of Peking, sailing Aug. 20th, carried 59,500 gallons wine, including 58,451 gallons for New York.

Produce Receipts.

Receipts and exports of leading cereals and other California products for the past week and for the season to date, as compared with the corresponding time the previous year, are as follows:

FOR THE WEEK.		Since July 1, 1904.	Same time last year.
Flour, ¼ sks	146,088	705,116	854,177
Wheat, ctls	32,568	220,807	298,808
Barley, ctls	67,976	417,232	805,141
Oats, ctls	21,635	123,401	171,657
Corn, ctls	4,250	14,369	14,327
Rye, ctls	717	7,758	11,292
Beans, sks	4,377	21,393	16,195
Potatoes, sks	28,426	160,473	165,330
Onions, sks	4,114	18,492	23,898
Hay, tons	6,181	35,465	37,565
Wool, bales	1,170	8,516	8,979
Hops, bales	1	219	1,137

EXPORTS BY SEA.

FOR THE WEEK.		Since July 1, 1904.	Same time last year.
Flour, ¼ sk	101,624	551,656	505,156
Wheat, ctls		21,789	78,782
Barley, ctls	297	106,954	491,270
Oats, ctls	222	2,555	5,059
Corn, ctls		1,731	2,716
Beans, sks	188	3,261	3,182
Hay, bales	98	20,217	25,561
Wool, lbs	156,780	632,495	882,461
Hops, lbs	779	5,964	55,265
Honey, cases	225	310	66
Potatoes, pkgs	239	16,146	13,546

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New Patents.

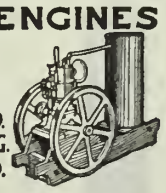
DEWEY, STRONG & CO.'S SCIENTIFIC PRESS PATENT AGENCY, 330 Market St., S. F., has official reports of the following U. S. patents issued to Paoific coast inventors:

FOR WEEK ENDING AUGUST 9, 1904.

767,130.—SAW SET—R. Addison, Pasadena, Cal.
767,257.—STEP LADDER—G. L. Banks, Santa Ana, Cal.
766,926.—VEHICLE WHEEL—C. N. Beal, S. F.
766,984.—HAIR RESTORATIVE—V. F. Beede, Stockton, Cal.
767,036.—TOOL HOLDER—H. W. Borchers, Portland, Or.
767,139.—BOOK SUPPORTER—L. C. De Carli, San Jose, Cal.
767,211.—PRESERVING EGGS—N. J. Dobbins, Los Angeles, Cal.
757,331.—CIGAR MACHINE—C. L. Driefer, S. F.
766,994.—REFRIGERATOR — B. S. Fryar, Sumner, Wash.
767,054.—BRICKS—H. M. Hanmore, Los Angeles, Cal.
766,945.—TELEPHONE—H. I. Hauxhurst, East Oakland, Cal.
767,151.—BED OR COUCH—J. Hoey, S. F.
767,276.—AMALGAMATOR—F. J. Hoyt, Redlands, Cal.
767,341.—WINDOW GLASS—C. J. Hurrie, Stockton, Cal.
767,344.—PARING HOOFS—W. G. Jackson, S. F.
767,156.—DISPLAY CARD—L. Lemos, S. F.
767,302.—BEER DRAWING MACHINE—A. L. Malone, S. F.
766,889.—WATER HEATER—J. M. McCartney, S. F.
766,964.—WATER HEATER—J. M. McCartney, Glen Ellen, Cal.
767,005.—SHOE LACING—J. A. McCoy, Sissons, Cal.
767,162.—TRANSPORTING APPARATUS—G. W. McNear, Jr., Oakland, Cal.
767,305.—HONEY EXTRACTOR—C. W. Metcalf, San Diego, Cal.
767,009.—GOLD DREDGER—O. B. Perry, S. F.
767,010.—VEHICLE AXLE—P. C. Peterson, Geyserville, Cal.
767,121.—VENDING MACHINE—T. R. Priebe, Renton, Wash
767,124.—HYGIENIC BATH—C. P. Randolph, Los Angeles, Cal.
767,247.—PEDAL—H. C. Ross, Piru, Cal.
767,015.—THERAPEUTIC MACHINE—H. A Slaughter, Los Angeles, Cal.
767,127.—AUTOMOBILE—A. C. Stewart, Los Angeles, Cal.
767,021.—CAMERA — Swartz & Martin, Junction City, Or.
767,255.—DRAG SAW—J. Tuisku, Everett, Wash.

ARMY WORM ON ALFALFA.—Modesto Herald: Countless thousands of a worm answering the description of the army worm are to be found in the Ceres district. L. L. McCumber, farming at a point 3 miles from Ceres, calls attention to the worm, which came under his observation in his alfalfa about a week or ten days ago. He observed that the alfalfa appeared to be dying in spots, and investigation found the worm in countless numbers. His examination showed that the worms stripped the leaves from the alfalfa stalk and consumed the plant wholly. Mr. McCumber states that he is satisfied that the worm would have cleaned out his alfalfa had it not been about ready to cut. And he promptly cut it. Mr. McCumber flooded some of his alfalfa a few days before he cut it. Subsequently he found the worm as thick as before. Dan Baldwin, residing east of McCumber's, reports the presence of the worm in his alfalfa. So does Rowe Rogers, residing 4 miles west.

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Bright's Disease and Diabetes News.

Sacramento, Cal., Jan. 30, 1904.

To relatives of those having Bright's Disease or Diabetes:

Knowing what I do I consider that it would be almost criminal to conceal the knowledge I have as to the curability of Bright's Disease and Diabetes when there are so many homes constantly saddened by the presence of these hitherto fatal diseases.

I had Diabetes myself for many years—had exhausted the best of medical talent here without result — it steadily progressed till I heard that there was a cure for it in San Francisco. It looked unreasonable but I sent for it. In a few weeks I was on the mend and in six months was in my usual health and strength. I then put an engineer of our road on it. He was broken down with Diabetes and was retired. In a few months he was back to his old position on his engine. Later my son, aged thirteen years, was discovered by our physicians to be in an extreme condition as the result of Bright's Disease. They felt certain he could not live but a short while. I got the treatment for him and he is now, to our delight, strong and vigorous again and at school and growing wonfully. Many here are taking the treatment. I have told a great many in person, for I know it to be an almost certain cure for Bright's Disease and Diabetes in all stages.

Yours faithfully,
CHAS. A. NEWTON,
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THE ORNITHOLOGIST.

The Horticultural Standing of the Quail.

Mrs. Minnie E. Sherman of Fresno is a thorough horticulturist. She studies carefully every detail of her chosen vocation and makes it pay her good returns. Her Minnewowa vineyard is one of the most profitable in the State. The splendid results obtained by its owner show what can be done in California in a horticultural way to grow the best fruit and market it to the best advantage.

Being an eminently intelligent and successful farmer, Mrs. Sherman's experiences on any subject pertaining to her calling are of more than ordinary value. She is a farmer who forms her opinions not from prejudice, but from close and careful observation, and when recently asked by W. Scott Way of Pasadena to give her opinion regarding the economic status of the California quail in its relation to the grape grower and farmer, she replied as follows :

"I put your letter aside for some days, as I wished to consult my fellow grape growers as to the amount of damage the quail actually do. I had hoped to find a few like myself who love the birds enough to mind the few grapes it requires to feed them. So far I have not found one man that does not believe them to be destructive. Yet I did not find one that really had any idea of how much the loss—whether $5 or $500—a year. All were sure they lost, but would not commit themselves as to how much it really was. As the Thompson's Seedless and Emperors are the greatest sufferers on our lands, I thought I could, perhaps, find out something about it. While one in the packing house notices every bunch of spoiled grapes, yet the entire culls of the Emperor variety last season was less than four tons from every cause, including mildew and sulphur stains, while the total product shipped out, of this variety, was seventy-seven tons.

Damage Very Small.—"The percentage of damage from all causes, including quail, was therefore small, though at the time the opinion was prevalent that our grapes were badly injured. So I personally do not feel that this is a heavy burden, with the many quail we have, and the gunners think we have more than any one else in this part of the country. Then we should consider the vast amount of good these birds do. The grapes only last a few weeks and during the other nine or more months of the year the quail must feed on weed seed and insects. The good they do in this way is certainly very great, though not easily estimated. But so sure am I of their value that I could not keep down all the weeds without their help."

Government Declarations About the Quail.—The section of biological survey of the United States Department of Agriculture has recently issued a bulletin upon the "Economic Value of the Bobwhite" to the farmer. Inasmuch as the habits and food of the California quail are very similar to those of the bobwhite, a few extracts from this bulletin will be of interest to the farmers and fruit raisers of this coast. This scientific investigation was carried on in twenty-one different States and extended through all seasons of the year, with an examination of the stomachs of 801 birds. From the results obtained during this investigation the Department of Agriculture pronounces the quail one of the most valuable birds to the agriculturist found in America.

These investigations showed that the food of the adult bobwhite during the months of May, June, July and August --the months when insect pests are the most numerous—consisted of 31.5% insects, and principally of such predatory classes as the potato beetle, cucumber beetle, bean leaf beetle, wire worms and their beetles, corn weevils, clover leaf weevils, cotton boll weevils, caterpillars, army worms, cutworms, grasshoppers, locusts and chinch bugs. Of their entire food for the year, the seeds of noxious weeds formed 50.78%. From the stomach of one bird killed on Christmas Day, 1901, at Kinsale, Va., 10,000 seeds of the pigweed were taken.

The grain found in the stomachs computed for the entire year, amounted to 23.64% of the whole, but this was mostly picked up after harvest, for the droppings of young broods examined in July showed a purely insectivorous diet. During the whole investigation no kernels of sprouting grain were found in any of the stomachs examined. Finally, the department estimates that each quail consumes between the first of September and the first of May fully eight pounds of seeds of troublesome weeds.

These statements can be relied upon as correct, because they are the results of careful investigations made in the interest of the agriculturist, in order to determine what is injurious and what is beneficial to the farmer and horticulturist.

As the habits and food of the bobwhite and the California quail are very similar, there can be but little question that the California quail are as beneficial to the farmer and the orchardist of this State, in the destruction of insects and noxious weeds, as their Eastern cousins are to the tillers of the soil east of the Rockies, and should number among their most ardent friends the men on whose lands they toil incessantly, gleaning the seeds of his troublesome weeds and destroying the insect pests that prey upon his crops.

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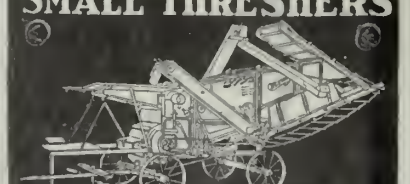
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The closest personal inspection of the land by proposed purchasers is invited. Parties desiring to look at the land should go to Willows, California, and inquire for P. O. Elbe.

For further particulars and for maps, showing the subdivisions and prices per acre, address personally or by letter,

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Agent of N. D. Rideout, Administrator of the Estate of H. J. Glenn at Chico, Butte County, California

83 - ACRES - 83

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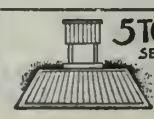
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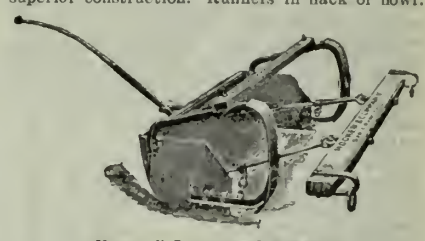
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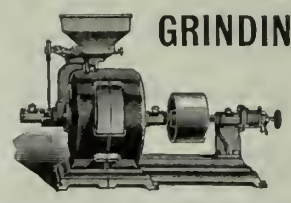
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AGRICULTURAL SCIENCE

Oiled Roads in Kings County.

The State Department of Highways in Sacramento has just collected some information concerning the oiled roads of Kings county. The first work was done in 1902, and there are now about 28 miles of oiled country roads. They are generally of a sandy loam—in some places mostly sand, in others mostly clay; some portions are composed of clay and sand, with considerable alkali. The roadbed is generally graded in late winter or early spring, while damp from winter rains. This leaves the road somewhat soft for 3 or 4 inches in depth and ready for the oil as soon as the rainy season is ended. About 12 feet of the roadway thus prepared is well covered with oil, which is then worked into the soil with a disk cultivator, so as to leave the oil mixed in with about 2 inches of the top of the roadway. In a few days the oil becomes evenly distributed through the 2 inches of soil. It is soft and sticky for a few days, but soon becomes packed, and, after a while, harder and firmer.

In some places where the percentage of sand is small, the surface of the roadway looks like asphalt pavement. In applying the oil there is used a 600-gallon or 1000-gallon metal tank on a wagon, provided with a sprinkler, usually consisting of a piece of 4-inch gas pipe perforated with ¼-inch or $\frac{3}{16}$-inch holes. The oil is discharged by gravity, no pressure being supplied. From 300 to 600 barrels per mile are used for a 12-foot strip, the greater quantity being used where the roadbed is mostly sand. Where the roadbed is mostly clay, and particularly where there is considerable alkali, but little oil has been found necessary. Where roads have been oiled more than once, the second dressing has been put on the following year, without plowing before putting on the oil, thus allowing as nearly as possible a year to elapse between the two applications. Generally about one-half as much oil is used the second year as the first on the same road surface. The oil, of 11° to 14° gravity, is obtained from Bakersfield at a cost of 62½ cents per barrel, delivered. It is not heated, and the cost of applying is but $15 to $20 a mile. Grading of the roadbed has been found to be the most expensive part of the work, the cost ranging from $100 to $400 per mile.

After the permanent road surface or crust has been formed, about 140 barrels per mile are used each year for a few years in maintenance and repairs. The greatest trouble experienced has been the stickiness of the surface, causing it to be carried off in spots by wheels and horses' feet. Rains have sometimes washed the oil off or out of the soil. Where the roadbed is chiefly sand, the oiled portion becomes ground up into soft, brown dust, so that, if not again oiled, the last state is worse than the first. In Hanford and vicinity it has been noticed that roads and streets remain sticky longer where they are shaded by rows of trees, yet they remain longer in good condition after they become well settled; also that they dry out in winter more quickly than the same roads before being oiled. About 20 miles will be oiled during 1904.

THE STOCKYARD.

California Live Stock Breeders' Convention.

The California Live Stock Breeders' Association announces a convention in Sacramento, August 29th and 30th. This convention—the first of its kind to be held in California—will be one of the greatest importance to all those engaged in the breeding and feeding of horses, cattle, sheep, hogs and poultry. The objects of the convention will be to discuss all questions of interest to the live stock industry, particularly systematic breeding and feeding, both from a scientific and practical standpoint.

The practical and commercial feature of the industry as prevailing to-day in the State will be handled by stockmen who are among our most successful breeders and feeders.

The wide range of interest congregated at this breeders' convention cannot fail to create the warmest and most interesting debates. The Association particularly invites all those who are engaged in the live stock business, either directly or indirectly, to attend the convention.

The following is the program:

August 29th—8 P. M. Convention opens. President's address.

1. "Agricultural Education," James M. Allen.
2. "The Value of Pure-bred Sires," Professor W. L. Carlyle.
3. "The National Live Stock Association," H. A. Jastro, vice-president of the National Association.
4. "Sheep," Dr. James W. Withycombe.
5. "Tuberculosis From a Breeders' Standpoint," R. A. Archibald, D. V. S.
6. "The Advantage of Chopping Hay for Feeding Beef Steers," L. M. Foulke.
7. "The Selecting and Fitting of Cattle for the Show Ring," N. C. Maris, a breeder and fitter of long experience.
8. "The Science of Breeding," Cornelius Baldwin.
9. "The Farmer's Cow," Robert Ashburner, E. S. Wagenheim and others.

August 30—8 P. M.

1. "California Live Stock Conditions," Professor E. W. Major.
2. "Live Stock Exhibitions in California," B. F. Rush.

Discussion—general.

3. "Poultry Culture in California as a Leading Industry," Henry Benar.

Discussion.

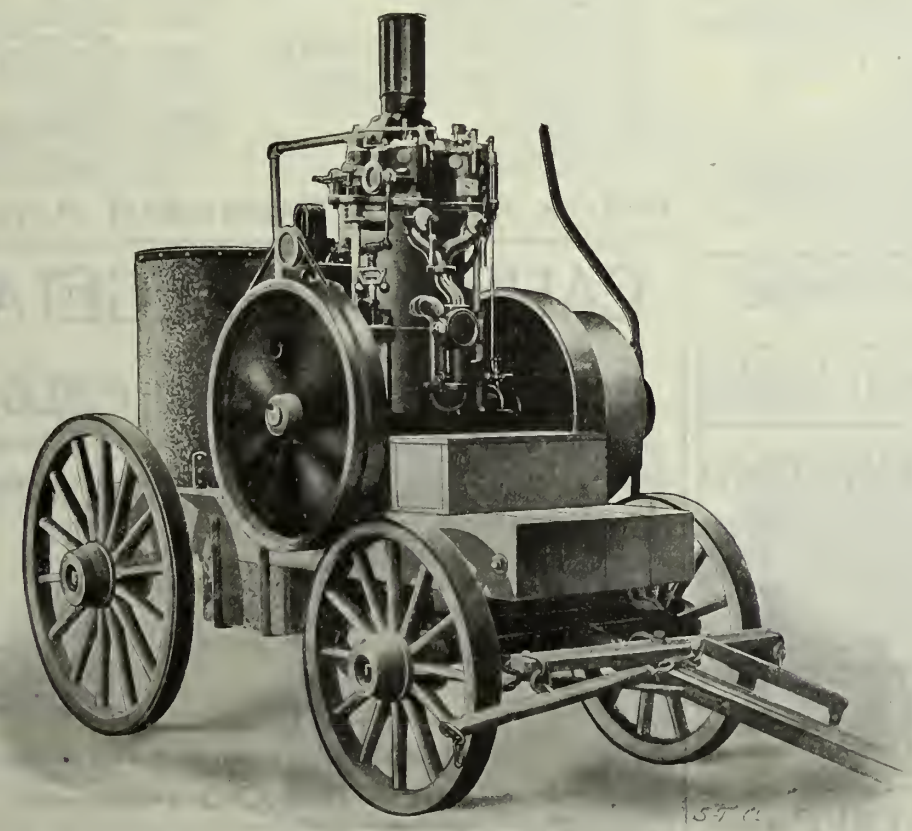
4. Infectious Diseases of Live Stock in California; Their Control and Eradication," Chas. H. Blemer, ex-State Veterinarian.
5. "Swine—Selecting Our Breeding Animals," Elias Gallup.

Discussion—S. B. Wright, C. H. Session and others.

6. "Some Experiences With California Oils in Dipping to Destroy Texas Tick," James Irvine and others.
7. "Grasshoppers," Professor C. N. Woodworth and J. S. Hunter.
8. "Horses," Professor Gordon H. True, Francis Hodgkins and others.

Agricultural Co-operation in Russia.

There are 220 agricultural co-operative associations in Russia. Some of them receive subsidies from the Government or the district council. These associations purchase at wholesale agricultural implements and machinery, seeds, breeding stock, etc., which are sold on credit or on the installment plan to the individual farmers. Agricultural exhibitions are held and lecturers are employed who go from place to place instructing the farmers in all branches of husbandry. Grounds are also set apart for experimenting by cultivating new plants. In many other ways the co-operative associations result beneficially for the Russian peasant. —Richard Guenther, Consul-General, Frankfort, Germany.



Portable Pumping Outfit.

Pumping Outfit on Wheels.

The accompanying illustration shows a wagon equipped with a 25 H. P. "Union" double-cylinder stationary engine. A circulating tank is mounted on the wagon and an oil tank is attached underneath. The engine is fitted with a friction-clutch pulley. The outfit is used for pumping purposes. It is the property of the Cutting Packing Co. of San Francisco, Cal. The net weight of the engine, without battery, friction-clutch pulley, oil tank, etc., is 3860 pounds; the weight of the complete outfit is 6500 pounds. This outfit is made and furnished by the Union Gas Engine Co. of San Francisco, Cal.

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THE VETERINARIAN.

A Case of Catarrh.

To the Editor:—Will Dr. Norman Neilson be kind enough to prescribe for a mare that has catarrh of several years standing. Runs occasionally from nostrils mostly after a drive and makes a roaring noise when warmed up or after drinking. The mare is in the best of health and spirits.—A. M., San Jose.

ANSWER BY DR. NEILSON.

In cases of this kind, where there is some permanent impediment to the ingress and egress of the air through the larynx or trachea accompanying a chronic nasal catarrh, very little can be hoped for as regards curative treatment. But much palliative benefit can be gained by a judicious use of tonics together with a correct diet. This should be as nutritious as possible, in small bulk, of a laxative nature and given at least an hour before going out. Feed hay sparingly, and wet it if it is inclined to be dry and dusty, and give very little water in the morning.

A pint of linseed oil, well boiled and given daily for a length of time, is often good.

As tonic, Fowler's solution in half-ounce doses three times daily in the feed or in the drinking water is good, but must be kept up for a month or longer.

A stimulating liniment may be rubbed on the throat and the nostrils sprayed daily with peroxide of hydrogen.

When in harness, this should be arranged so as to encourage protrusion of the nose as much as possible.

Norman Neilson, V. S.
510 Golden Gate avenue, S. F.

New State Veterinarian.

Governor Pardee has commissioned Dr. Charles Keane, of Los Angeles, to be State Veterinarian, vice Dr. Blemer, term expired. Dr. Keane is a young man, a native of San Francisco, and was graduated as a veterinarian from the University of California. Soon after being graduated Dr. Keane took service in the Federal Bureau of Animal Industry, Department of Agriculture, and was stationed in Minnesota, serving there with marked success. Latterly he served the Bureau in the southern counties of California. He has resigned the Federal position to accept the post to which he has now been appointed.

Dr. Keane will enter at once upon his new line of duties, beginning this week with the inspection of several bands of cattle in southern counties in the lower end of the San Joaquin valley.

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FRUIT MARKETING.

Raisins, Prunes, and "The Inevitable Parcels Post."

To the Editor:—"The Inevitable Parcels Post" is the black letter head line over an editorial in The American Grange Bulletin, the official organ of the National Grange, published at Cincinnati, O. After stating that the Eastern farmer needs the parcels post even more than he needed the free rural delivery, the editor adds: "It is time that every influence of the Grange and its members be brought to bear upon the men who are now candidates before the people for election as members of the House of Representatives. The parcels post is inevitable; but those who need it can do much to hasten the day when it will be at their service."

Now, few classes need it more than the raisin and prune growers of California. Here is how one of them expresses his feelings to me:

I now think it would be well if you would write a communication to the Pacific Rural Press on the value of parcels post to raisin growers, particularly in that it would enable them not only to widely distribute and market much of their crop, but also that it would, properly used, enable the growers to most efficiently advertise their product through such distribution. It is the firm belief of most raisin growers that it is necessary to advertise raisins and prunes extensively—even to the extent of $50,000 or $100,000 per year—in order to create a market and demand for an ever-increasing crop. If each individual grower could by the aid of parcels post distribute among his Eastern relatives, friends and acquaintances his raisins at a reasonable advance in price over what he now receives, and his Eastern friends receive the raisins at say less than half he is now charged, the people would buy and use all the raisins California can produce, and the growers would advertise the industry better than any sum spent in newspaper or magazine advertising.

This year, and now, is a good time for raisins growers (prune growers also) to go to work in earnest and see to it that no man goes to Congress from California who is not openly and earnestly an advocate of parcels post.

This to me seems good, sound, common sense—otherwise wisdom, for wisdom, says one of our modern sages, is "knowing what is best to do next; skill is knowing how to do it, and virtue is doing it."

Let us all try to practice the necessary wisdom, skill and virtue. And let us do it now.

"There ain't a man thet needs be told thet now's the only bird lays eggs of gold." Edward Berwick.

Pacific Grove.

The Spanish Almond Crops.

Reports by Consular Representatives of the United States Government.

The Almond Crop of Malaga.—The size of the coming crop of the famous Malaga almonds, known to trade as the Jordan, will fall considerably below the extensive yield of last season. This is the advice as received by local exporting houses from the adjacent country districts. Such reports received at this time of the year are considered reliable, as the local rainy season has passed and nothing but extraordinary weather conditions can effect to any degree either the size of the fruit or the extent of the crop.

Predictions made at this date last year that the 1903 crop would reach close to 100,000 25-pound boxes was fully verified by the season's return. The yield of between 90,000 and 100,000 boxes was the largest for several years, and double that of 1902.

A rough estimate is that the new crop will be between 60,000 and 70,000 boxes.

The lack of rain in this province during the early months of last year had the effect of producing a greater proportion of the smaller sizes of Jordans, but as much rain has fallen during the past winter and spring the growers have expectations of larger fruit.

Business is practically at a standstill at this writing, with probably 8000 boxes of Jordans remaining unsold in the local storehouses. The last sales of the brand of Jordans most in demand in the American market were at $6.50 per box, with American buyers unwilling to meet these prices.

As compared with values at a corresponding date last year the above quoted price is extremely low. On June 1, 1901, Jordans brought $9.25 per box.

One of the leaders of the almond trade here expects that the bulk of the stock now on hand will remain unsold until the opening of the approaching season, early in September.

During the past year 30,146 boxes and 37 bags of Jordans, representing a value of $235,605.94, were exported to the United States.

This exceeds the American shipments of 1902 by almost 3000 boxes.

Valencia almonds, the grade indigenous to the entire southern coast of Spain, will be as plentiful as last season, when an abundant crop resulted.

Last year 61,778 boxes, 507 bags and 25 bales, representing sales amounting to $291,291.73 reached American buyers, almost double the quantity shipped in 1902. As Valencias enter into the trade of all Spain, and similar almonds are also shipped from Italy, the interest of American buyers naturally centers largely in the Jordan brand.

Freight rates remain approximately the same as last year, the prices varying from 35 to 40 shillings per ton of 80 boxes to New York.

Thomas R. Geary,
U. S. Vice-Consul.

Malaga, July 21.

Almonds in Alicante. — What is shipped from here is known as Alicante almond kernels, without shell, and is a large, flat and sweet almond, picked and packed in different size and qualities, say "finest," "medium," "selected," "superior," and "ordinary," generally shipped in boxes containing twenty-four pounds each, in barrels containing three hundredweight each, and in bags containing two hundredweight each. The crop commences during the second half of August.

The coming crop promises fairly well, although it is said that it will not be so large as last year's and good qualities will be somewhat scarce. Stocks remaining over from last year are very insignificant and what remains is of inferior quality and is being used up for home consumption at fairly high prices. Nothing is yet said as to what prices may rule, but it is thought that they will run more or less about the same as last season, say from 22s to 17s per box cost and freight according to size and quality.

There are no direct sailings to America from this port, consequently freights are high, say a through freight of 50s per ton of twenty hundredweight via Liverpool and 45s per ditto via Amsterdam or Genoa for New York or Boston.

During the past season about 445 tons of almonds have been exported to the United States from this port, making a total value of $156,925.72.

E. C. Carey, Acting Vice-Consul.

Alicante, July 19.

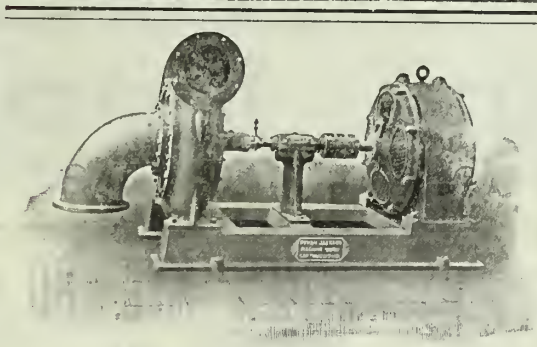


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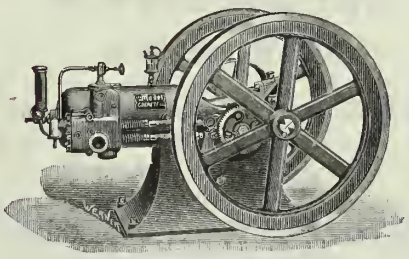
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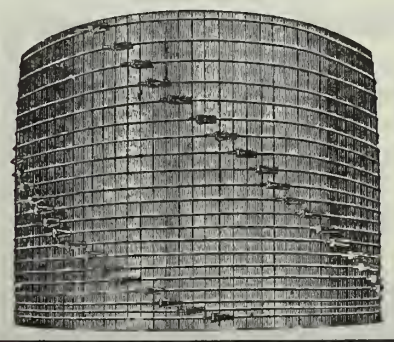
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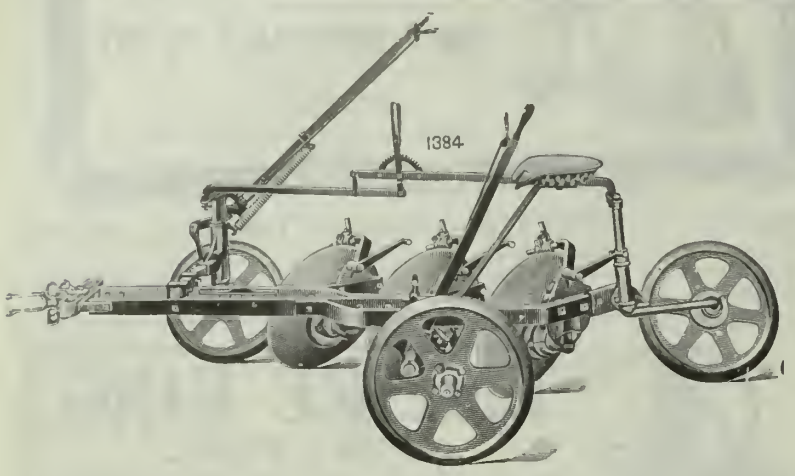
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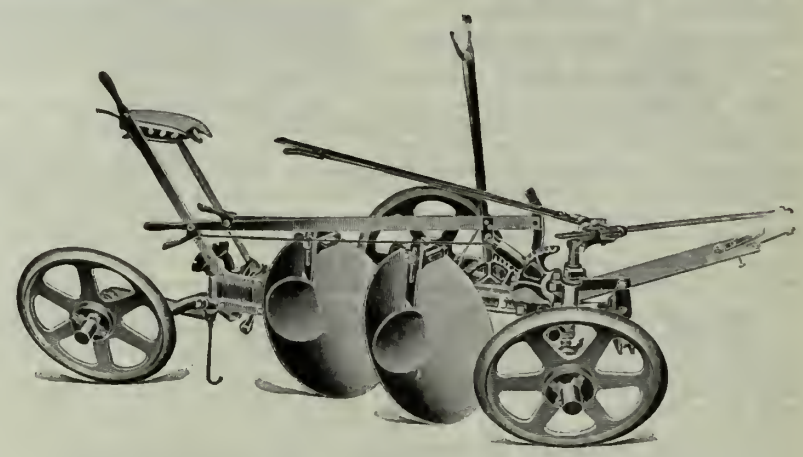
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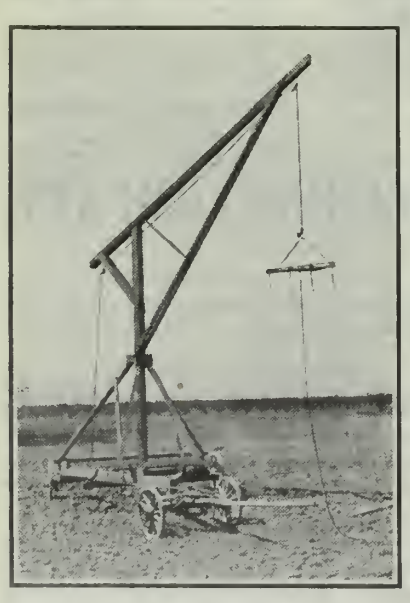


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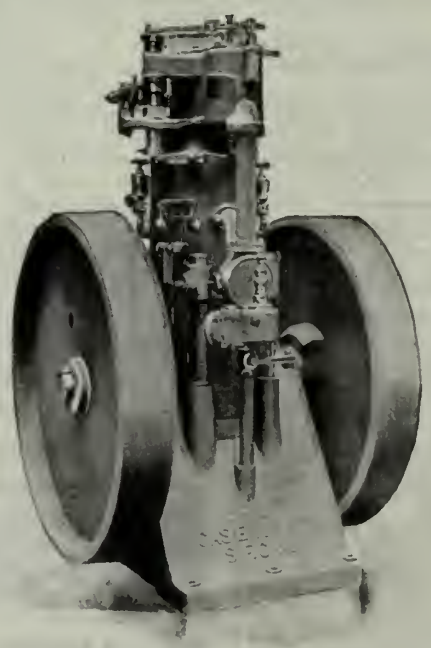
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Vol. LXVIII. No. 10. SAN FRANCISCO, SATURDAY, SEPTEMBER 3, 1904. THIRTY-FOURTH YEAR. Office, 330 Market St.

With the Sheep in Eastern Nevada.

California has less sheep than formerly, and the flock owner in this State is caromed back and forth from the valley settlements to the mountain forest reservations until he feels as though Cain were after him. In the great interior States the sheep interest is expanding and there is increased demand for accurate information about local methods and facilities. The Nevada Experiment Station at Reno is meeting this demand in a very enterprising manner in the publication of bulletins containing the results of explorations by competent observers. We alluded in our issue of August 6th to the latest publication in this series prepared by Prof. P. Beveridge Kennedy, which contains accurate accounts of the plants supporting the sheep and of the policies pursued by the flockmasters in eastern Nevada. From this source we draw the accompanying pictures and interesting descriptive matter:



General View of Nevada Foothill Sheep Ranges From Lone Mountain, South-Central Nevada.

A great difference exists between eastern Nevada sheep ranges and those of the Sierras. In the former only about one-quarter the number of sheep are grazed on the same area of range. This is due to some extent to the greater scarcity of water and to the fewer number of sheep men occupying the territory. They have also access to the great free range country in northern Nevada in the region of Gold creek and the Bruneau river, so that a number of bands can be kept there during the summer months and then brought down to the home range to be topped off and shipped. As most eastern Nevada sheep men have from one to ten bands of sheep on this free range, and about 60,000 or 70,000 sheep from Idaho also summer in northern Nevada, it stands to reason that there must be a continuous struggle for the best camping and feeding grounds. Probably more feed is wasted by trampling than is eaten. This, however, is not so injurious to the range as if it were eaten off close and the forage plants destroyed permanently. In no place on the home ranges had the grasses suffered from trampling and overstocking to such an extent as shown by Dr. Griffiths in his investigation in the Steins mountains in Oregon. This may be accounted for by the fact that usually the sheep only feed over the ground once except in the vicinity of the sheep herder's camp. Sometimes a lazy or incompetent herder will bring his sheep back to his cooking camp every evening so that they may be more easily watched and he may not have so far to go for his meals. A few instances of this kind were noticed which showed that the soil was ground up into a fine powder and the plants eaten and trampled upon excessively. Cattle had done considerable damage along the creeks where they went daily for water for many months in the year by trampling many paths in their journey to and fro. The soil is not merely loosened in these cases, but innumerable paths, from one to three inches deep, are cut into the ground, making it impossible for any vegetation to grow in them. The nature of the soil on much of the region investigated is such that, when loosened by the feet of the sheep, it forms a sort of sponge which readily soaks up the summer rains, and, when this is not carried to excess, it is an easy means of cultivation, which aids rather than retards the future growth of the plant. There are some steep hillsides, however, which cannot be classed under this head. The soil is of a more gravelly nature and the rains are not readily soaked up by it. Sheep, however, traverse these hillsides in a horizontal direction and form narrow trails, while the rains descend perpendicularly, and, beating upon these flattened paths, are hindered from making any deep erosions in the hillsides. This was not the case in the Sierras, where the timber had been cut and the soil of a light nature. There the rains cut miniature gorges into the steep banks, which, in time, will form passageways through which the water will rapidly be carried down to the lower levels.



Characteristic Area of Little Black Sage on Nevada Sheep Ranges.

From the fact that sheep prefer weeds and browse to grasses, it was noticed that on this range the grasses were allowed to seed and no sign of overgrazing by sheep of these valuable forage plants for cattle was seen. Cattle, however, do not care to feed on ground over which sheep have passed, so that, as far as that particular season is concerned, the grasses are not eaten by cattle. As already stated, owing to the range being controlled and the scarcity of water in some seasons permitting only a portion of the land being grazed by sheep, there is always plenty of grass for cattle on these ungrazed portions. Under these circumstances the grazing of sheep over this particular range is a benefit rather than a menace to the grasses, as they insure protection to them while seeding.

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SAN FRANCISCO, SEPTEMBER 3, 1904.

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The Week.

The State Fair did well with the special features it undertook, and although conditions were not favorable to the holding of an all-around exposition of productions, the directors succeeded in developing some branches in a very unique and interesting way and thus discharged their duties to the public. Although the fair will go upon record as small in some directions, it will be great in others, and perhaps in no others so great as in the intellectual and educational influences. This year favored the assembling of conventions during the fair and they accomplished proceedings of high order and looking toward the uplifting of the agriculture of the State in several important directions. The outlines of the proceedings of the Live Stock Breeders' Association and of the new State Dairymen's Association, which appear upon other pages of the issue, show that there are strong progressive forces moving in the State and that good will result from their action. The directors of State Society should properly include these things in the sum of this year's effort on their part and the influence of the achievement will ultimately be toward the upbuilding of the Society itself. What we need is a stronger spirit in our agriculture, a wider recognition of the value and importance of adequately equipped industrial education, and as these are developed the significance of high-class educational expositions will be better understood and patronized. The day will come when clap-trap will not be necessary to draw people together under the auspices of the State. Clap-trap will have its ample occasions under other auspices and there will always be ample demand for it no doubt, but our fairs will be the opportunities for the demonstration of the great things in agriculture. The transactions in Sacramento during the last two weeks are certainly toward the realization of such important ends.

Wheat is steadier for options and firmer for spot, though few sales are made. A cargo has come down from Oregon for transfer to cross-ocean ship, but no movement nor charter on local account is noted. Barley and flour are going out by steamer to Asia, and barley values are firm but unchanged. The same is true of oats, some of which have arrived from Washington for local millers' use. New crop beans are arriving from the Sacramento river district; the market is firm and strong for Limas. Bran and middlings are lower with increased offering. Hay is unchanged, with fancy wheat selling fairly. Receipts are less, but stocks are still large. Choice beef is steady, mutton easy, hogs steady and lambs lower. Butter has a tendency to firmness on strictly fancy fresh, which is in light receipt, but other grades are unchanged. Cheese is weak for ordinary flats and demand slow. Fancy eggs are higher, as fewer are coming; Eastern and storage eggs are being pushed out freely. Poultry is in better demand and firmer, especially for choice young stock. Potatoes and onions are slow and weak. Desirable fruit is in rather light receipt and firm. Some fruits are higher in the country; for instance, choice selected Bartlett pears are being taken up to $50 per ton in remote districts, while $30 stands as the canners' apex for what is shipped to this point. Cling peaches are having another record year, reaching up to $60 per ton, while $35 is high for freestones. Some Valencia oranges are still selling and are steady in value; lemons are in fair demand and unchanged. Dried fruit is about the same as before, with a good demand for apples, peaches and pears. Prunes are still rather indisposed. Raisins are uncertain, although the carry-over has been covered by packers. Almonds are practically all sold from first hands, and jobbers are holding very high. Walnuts are still awaiting prices. Honey is in a little better demand, and firm for choice to fancy. Hops are slow, although the bull movement continues and sales noted are better than 26 cents in Sonoma county. Wool is still chased in the country and mostly bought prior to arrival here.

The organization of wool growers to promote sales at local sale days duly announced is proceeding with much satisfaction. At a meeting held the other day in Marysville the experience of a sale day last spring at that point was very satisfactory, and two days will be fixed for this fall. It is important that the days in the different districts should not coincide. At Marysville sales heretofore had been attended principally by the coast buyers, while growers are desirous of securing the attendance of Eastern purchasers as well. A number of growers in the mountain districts, as well as in the valley, were in favor of having two sales. If they did not secure a good market at the first sale they could hold over until the second offering. There was also discussion regarding the county scab inspectors, and the cost of issuing certificates which were paid for by the sheep men. It was thought that when sheep were once inspected and a certificate issued as to their being free from disease, that it was not necessary to have to pay for another certificate every time that they sold a bunch of sheep. The secretary was instructed to correspond with all other organizations with regard to the date of their sales, etc. These are all practical questions and certainly the wool growers should get together upon them. We like to see signs of activity in the wool interest.

The interesting statement is made that the next State Fruit Growers' Convention will probably be held during the second week of December, commencing on Tuesday, the 6th, and continuing until Friday, the 10th. The location of the convention has not yet been decided upon, but a very strong effort has been made by the citizens of San Jose, represented by their Chamber of Commerce, Grange and other public bodies, to have it located in that city. They probably urge that they have a central location, within easy reach of the coast counties and central California, and good railroad facilities and easy means of reaching it; that San Jose is the center of one of the largest fruit sections of California and has a more direct interest in the convention than any other city in the State.

At the World's Fair on Tuesday of this week 300 pounds of black dirt arrived in a big box at the Stockton and San Joaquin county section of the California exhibit in the Palace of Agriculture, and will be displayed there under the claim that it is a sample of the richest soil in the United States. It was taken from the delta of the San Joaquin river about 7 miles from Stockton.

It is telegraphed from Washington that Oregon leads all the States in the amount of money received from public lands, having turned into the Treasury $1,442,756 in the last fiscal year. This is over $100,000 ahead of the nearest competitor. There were 12,874 entries made in Oregon last year, embracing 1,170,665 acres of public land.

QUERIES AND REPLIES.

Sowing Alfalfa.

To THE EDITOR:—Will you give me some information as to how to plant alfalfa seed? Last winter I planted about 100 feet of ground, but it did not come up. I now would like to plant about two acres of ground for stock and would be thankful for information as to how to prepare ground for the seed.—PLANTER, San Jose.

In preparing land for alfalfa it should be plowed as deeply as possible and then thoroughly harrowed and pulverized, as well as circumstances will allow; then the seed, sown about fifteen pounds to the acre, should be evenly broadcast and covered very lightly. This is usually done with what is called a brush drag—a lot of stiff brush being affixed to a draw bar for this purpose. Covering the seed with an ordinary harrow buries it too deeply. It is essential that it should remain quite near to the surface. Probably your mistake last winter was in covering too deeply. If you have water for irrigation so that you can wet the land deeply now, then get it into good condition and sow the seed next month, you will get a pretty good stand of alfalfa before winter time, and this is a very good way to operate in the coast region in places where there is little fall frost. If, however, you have not irrigation water you will have to wait until the land is deeply moistened by rainfall, and if that brings it too late in the season it is better to defer the seeding until February or later near the coast, because the young plant is exceedingly sensitive to frost.

Morning Glory.

To THE EDITOR:—Will you please to favor subscribers and others by telling us through the PACIFIC RURAL PRESS what can be done to kill the common wild morning glory? We have tried many methods.—E. C. L., Lodi.

As we have frequently stated before in these columns, we know no better way to deal with morning glory than to constantly cut off the rising shoots below the surface of the ground with a weed cutter, either in the form of a sharpened bar of steel rigged to a pair of thills with plow handles, or rigged to a sled, or to use a duck-foot cultivator, keeping the teeth sharp and set so as to cut under all the surface. This cutting must be done every few days, never allowing the shoots to reach the light.

Alfalfa Growing.

To THE EDITOR:—Will alfalfa do well on a sandy soil, unprofitable in wheat now? How is it apt to do, and how many years is it apt to last without replanting? What have the results been with grain hay with water?—ENQUIRER, San Francisco.

A rather light soil, sufficiently deep and furnished with ample moisture from irrigation, constitutes fitness for profitable growth of alfalfa. The profitable life of the plant will depend largely upon the depth of the soil—that is, freedom from hardpan and the danger of alkali, and upon the way in which the plant is treated. Under favorable conditions in all respects, alfalfa may be counted upon to endure for ten to twenty years.

Grain hay can be successfully grown by irrigation. It is, however, usually best to winter-flood the land and trust the growth to this moisture rather than to use surface irrigation during the growing period.

Green Manuring of Orchard.

To THE EDITOR:—Will rye sown in the fall and plowed in in the spring be of any benefit to the soil of an orchard of 14-year-old trees bearing heavily? Or is some other plant better than rye? — FRUIT GROWER, Medford, Or.

Our Pacific coast soils are made better by the plowing in of green matter sufficiently early to allow its decomposition in the soil before the dry season sets in. Green rye or other cereals or grasses contribute to this result, but because they are unable to appropriate nitrogen from the atmosphere they are less valuable than any of the clovers or other leguminous plants which have this ability. Common field peas are proving the best winter growers in California and, therefore, likely to give most green stuff for

plowing in early in the spring. In this State we can not use the red clover (which is so commonly used for green manuring at the East) because it is not a good winter grower, but makes a growth late in the spring when the heat increases, and that is too late for plowing in the soil. You can undoubtedly improve your orchard soil by plowing in the weeds which naturally grow or by growing peas or some other hardy legume for that particular purpose.

Peas for Green Manuring.

TO THE EDITOR:—After writing to several seedsmen I am unable to find the Canada field pea, which I wish to plant for fertilizer. They suggest the use of the Niles pea instead, this to be had only after the new crop comes in. Can you inform me of any place where the Canada peas can be secured, or if not, will you tell me if the Niles pea is a satisfactory substitute? Also in reference to the time for plowing under, or at what stage of plant growth this should be done, whether at the blossoming time, or earlier or later? I do not know whether it is desirable to wait for much seed formation or not.—FRUIT GROWER, Colusa county.

You can probably get the Canada field pea in Los Angeles, because they are chiefly used in that part of the State, but we doubt whether they are worth more than the Niles pea for the purpose which you have in view. We are freely commending people to use the Niles pea, because the seed is available. The pea should be plowed in while the pod is still green and before the stem begins to yellow at the base. The plant in this condition shows some blossoms and some small pods, but does not wait for the seed formation.

Hops in the San Joaquin.

TO THE EDITOR:—I would like to get your opinion and advice about hop growing in the Modesto and Turlock irrigation districts. The soil is very sandy, but seems quite fertile. I am told by hop growers here that where alfalfa does well there is no doubt about hops. Alfalfa grows to perfection there. Of course one would have to depend on irrigation. Again, on the Tuolumne river bottom one would have the spring floods to contend with. Would this be so late as to interfere with hops? Hop growing has never been tried around there.—READER, Sebastopol.

Good hops have been grown in deep alluvial lands holding sufficient moisture in the San Joaquin valley, at least as far south as Merced county, and there are undoubtedly deep free loams in the district you mention where good hop crops can be had if the plant is well handled. You will, however, have to look out for hardpan and alkali, as in other irrigated districts. As high water in the bottoms of rivers fed by the Sierra snows is likely to come late, there is danger in planting in land subject to deep and protracted overflow.

Summer and Fall Pruning.

TO THE EDITOR:—I would like your advice about summer pruning of apricots. I know that it is often done, but in this case I wish to cut out quite a little old wood. The trees do not seem to make sufficient growth and I am quite anxious to cut some of the wood, and if possible do it at such time as not to lose a crop when I do so. I also have Muir peach trees that are not making proper growth. Possibly the soil is at fault, although the location is considered of the best in this locality. I also wish to know the proper time for summer pruning.—GROWER, Merced county.

It will be perfectly safe to cut back apricots at this time of the year and you can remove the old wood without injury to the tree; in fact, this work can be done at any convenient time during the fall and winter. The same thing is true with reference to cutting back of the peach, provided the tree appears to have finished its growth; that is, if the leaves are beginning to show the autumn colors. Where trees are growing very vigorously with fresh green foliage it is better to cut back later in the season. Your trees may be lacking in thrifty growth because of the scarcity of moisture in the soil. This may be due to lack of retentiveness, or to the fact that the ground was not thoroughly cultivated. Of course, unthrift of trees may be due also to the presence of objectionable substances like alkali in the soil, but from what you say the probability is that the trouble is not in the soil, but in the lack of irrigation or the lack of cultivation for the retention of moisture. As for summer pruning, which is a little different from cutting back at this time of the year, it is usually best done directly after the fruit crop is gathered.

Jumping Seeds.

TO THE EDITOR:—I send you something in horticultural line. It seems to be new to everybody and nobody seems to know anything about it, and it is as old as the oak trees. I think it would interest your readers if they could see the fun of it. I would like to get your opinion about it.—C. BAUMGART, Martinez.

The jumping seeds which you sent are not seeds at all, but are so named from their resemblance to seed. They are really small galls, or swellings, which appear upon the leaves of the plant when they are stung by a small fly of the group known as "gall flies." The insect larva grows within these galls or swellings and at a certain stage the gall separates itself from the leaf and falls to the ground. The larva as it approaches maturity indulges in convulsive movements which cause the seed-like body to skip about; hence the name "jumping seeds." These little bodies are common in various parts of the United States, but the record does not show their occurrence on the west side of the interior valley of California. Did you gather them near Martinez, or were they sent to you from a distance? We would like very much to know that. The full name of the insect causing these peculiar affairs is Neuroterus saltatorius.

Volunteer Alfalfa.

TO THE EDITOR:—Noticing an item in the last issue of your paper on "Volunteer Alfalfa," I beg to submit my views. I have worked with alfalfa for several years and find what will do one season will not do the next, and different soils oftentimes need different treatment. I have noticed where I pastured alfalfa in the spring, after it had self-seeded in the fall by being too thin to stand up for the machine, it has volunteered, grown and thickened up on heavy alkali soil, and where it was not pastured it also came up, as you see, as thick as hairs on a dog, but did not live to grow up to thicken the stand. I attribute the difference to the fact that where the alfalfa was not pastured the old plant smothered the small plant, while the pasturing kept down the growth and allowed the young plant to get rooted and grow. Again, on light, sandy land, I had almost no stand last fall; but with the rains it thickened up and now it is a full stand, although it was not pastured. In either case no discing or harrowing was done. I am not a qualified judge, so take this for what it is worth. —A READER, Fresno.

Such observations are always interesting and worth placing on record. You were right in speaking of different results from different conditions. Let others give their experience; by and by we may be able to see the principles involved.

Dangerous Figures.

TO THE EDITOR:—I intend to become interested in raising potatoes, alfalfa, rhubarb, etc. I am not able to find any data relating to the output of these crops per acre. Can you tell me the cost of planting, etc., and the possible result of crop?—BEGINNER, Chicago.

Our publications do not furnish much information of the kind you desire concerning the outcome of different crops. The result depends so much upon the soil, the skill of the grower, etc., that it is impossible to secure data trustworthy for such calculations. The best way to get information in any locality is to talk with men who are growing the crop you have in mind, learn what their results have been, and judge for yourself how well they are doing their business. We refrain from prophesying in this matter, because we find so many people so apt to be misled into making glowing calculations which do not account sufficiently for suitability of the soil and of the parties who undertake the crop. Such computations are particularly apt to mislead people who have not had much experience in agricultural affairs.

Insufficient Specimens.

TO THE EDITOR:—I send a small bunch of grapes in a box. Can you tell me what is the name of the kind? —SUBSCRIBER, Ceres.

We submitted the specimen to the ampelographers at the University and they informed us that they are not able to say what is the variety of grapes from the specimen furnished. They need a whole bunch of the grapes, together with a few leaves, in order to satisfy themselves in such determination. The sample of leaves should be taken between the ninth and twelfth nodes on a cane growing on this year's spur, as such leaves are more apt to be characteristic.

No Apples on Pear Stock.

TO THE EDITOR:—What other kinds of fruit can be grafted on pear trees? Can apples be successfully grafted on pear trees? If not, what can be grafted on them besides pears?—A. R., Sonoma county.

No kind of commonly grown fruit can be successfully grafted on pear trees except the quince, and that will succeed on some varieties. Apples will grow for a while at first, but will not be satisfactory.

WEATHER AND CROPS.

Report of the U. S. Weather Service for Week Ending August 29, 1904.

ALEXANDER MCADIE, Forecast Official and Section Director.

Sacramento Valley.

Cool and partly cloudy weather prevailed during the week, with showers and scattered thunderstorms on Tuesday. Little or no damage was caused by this rain. Hop picking and baling are progressing rapidly; the crop is large and of good quality. Almond harvest is progressing and the crop is light. Grapes are ripening rapidly and being shipped freely in carload lots. In some sections table grapes were slightly damaged by burning in July, but a large crop of excellent quality will be harvested. Wineries have commenced operations. Large shipments of Bartlett pears are being made daily from Anderson. Prunes are ripening rapidly and will be about half a crop. Oranges are developing nicely and there is plenty of water for irrigation.

Coast and Bay Sections.

The weather during the past week has been cool; the first part was cloudy and the latter cool. Showers, and in some sections thunderstorms, occurred Tuesday. Very little damage was caused by the rain. Grain harvest is about completed; oats were a fair crop, but wheat and barley were light. Prune picking is progressing rapidly; the crop is lighter than last year, but of better quality. Good crops of peaches and pears are being harvested. Fruit drying is progressing rapidly, owing to damp weather. Codlin moth is causing considerable damage to apples in the Hollister district. Hop picking is progressing rapidly and the crop is good. A large crop of beans is being harvested in Sonoma county. Oranges are making good progress. An excellent crop of grapes is being harvested. Corn and vegetables are doing well. Olives, almonds and walnuts are in good condition.

San Joaquin Valley.

Monday and Tuesday were cloudy, with light, scattered showers Tuesday, which did little or no damage; the remaining portion was clear and cool. The peach crop is nearly all harvested. The grape crop is ripening rapidly; picking for raisins is progressing in some sections and will be general this week. Large shipments of Black Prince and Tokay grapes continue; the grape crop is good in all sections. Prune picking is progressing rapidly and the crop is good. Melons are still plentiful and shipments in carload lots continue. Large shipments of hay are being made to local and southern markets. Oranges are making good growth and a large crop is expected. The fourth crop of alfalfa is being cut; the crop is good. Summer crops are making good growth. Stock are healthy and in good condition.

Southern California.

Partly cloudy and cool weather prevailed during the past week, with frequent showers and thunderstorms during the fore part of the week. In the mountains and on the desert the rains were heavy and caused considerable damage to railroads, but very little to the crops. Grapes are ripening rapidly and picking is progressing; the quality is excellent. Sugar beets are making fine growth and are above average. Beans were damaged considerably by the hot weather of the previous week, and the crop will be below the average. Walnuts are maturing fast and were improved by the cool weather; on irrigated lands the nuts appear to be plump and well filled. A large crop of potatoes is being planted. Oranges are doing well.

LOS ANGELES SUMMARY.—Heavy thunderstorms occurred in the mountains and occasional light showers in the valleys. Considerable damage reported in the Mill Creek section. Bean cutting continues; some thrashing being done.

EUREKA SUMMARY.—Oat thrashing continues; some fields averaged sixty bushels to the acre, and hay over five tons per acre. Pea thrashing will soon begin. Apples are being marketed in moderate quantities.

Rainfall and Temperature.

The following data for the week ending 5 A. M. Wednesday, August 31, 1904, are from official sources and are furnished by the United States Weather Bureau for the PACIFIC RURAL PRESS:

CALIFORNIA STATIONS.	Total Rainfall for the Week	Total Seasonal Rainfall to Date	Total Seasonal Rainfall Last Year to Same Date	Average Seasonal Rainfall to Date	Maximum Temperature for the week	Minimum Temperature for the week
Eureka	T	1.19	.59	1.54	64	48
Red Bluff	.00	.10	.00	.69	96	60
Sacramento	.00	.06	.00	.31	92	54
San Francisco	.00	.08	T	.33	74	52
Fresno	.00	.00	.00	.30	100	58
Independence	T	.01	.00	.26	90	56
San Luis Obispo	.00	T	.00	.34	88	46
Los Angeles	.00	16	T	.12	92	60
San Diego	.00	T	T	.15	82	64
Yuma	T	.73	.04	.66	106	76

HORTICULTURE.

California Olive Oil.

By Dr. G. W. Shaw, in Bulletin 158 of the Agricultural Experiment Station of the University of California.

Changed commercial conditions have made it almost imperative that, with few exceptions, the manufacture of olive oil, as with dairy products, be conducted by central plants on a considerable scale, rather than by numerous small outfits connected with the orchards themselves. This mill may be either co-operative, as with many successful creameries, or under private ownership, but, above all, the conditions surrounding its location and operation must be of the best, and the equipment of the mill must be of the highest efficiency. As the making of butter on the farm has rapidly given way to creamery methods, so the making of olive oil in a small way must surely give way to larger, centralized mills.

Large Establishments Desirable.—By thus centralizing the manufacture the operations of making and marketing the product can be better systematized, more skilled labor generally employed in the mill, and the large number of very indifferent brands—which in many cases are even inferior to its neutral oil competitors, cottonseed and peanut—can be materially lessened. As a result, especially if the industry be coupled with that of pickling—its natural complement—the manufacturer, on account of the larger output and the possibility of handling at a greater profit his highest grade of olives in the form of pickles—can afford to pay the grower a price for olives which will return a fair profit, a condition which can not be said to obtain generally where either of these industries is conducted on a very small scale on the orchard itself.

The improvement in the conditions surrounding the dairy industry since the establishment of central creameries in place of the individual churn on the farm is a standing example of the advantages to be gained by central points, both from the standpoint of the producer of the raw material and the manufactured product. The growing of the olive is a branch as distinct from the making of oil as the production of milk from the making of butter.

Under the present condition there is a wide range in the class of equipments used in the making of olive oil, ranging all the way from the most crude machines operated entirely by hand, in a very haphazard manner, to the modern mill operated by power and equipped with the latest mechanical appliances for handling both the raw material and the finished product.

After a very careful study of the conditions which obtain in the manufacture of olive oil to-day, the writer can not recommend in any way the attempt to handle olives for oil on a small scale in connection with the orchard, where the idea is to make oil in a commercial way. In a small way, of course, for home use, hand work with a small plant can be utilized, but if it is hoped to manufacture oil at a profit commensurate with the care and labor expended, automatic machinery to reduce the cost and facilitate the handling of the goods so far as possible, and the most economical arrangement of the machinery in building, to prevent as far as possible all doubling back on all work, should be employed.

Mistakes Which Have Been Made.—It is true that certain makers, operating on a small scale and with hand apparatus, have made a success by establishing a limited clientage for their particular brand of oil, made of the highest quality; but the record of successes in this way is very small, and it must be said that those who entered into the business in a small way have become discouraged for one reason or another, and in some cases have entirely abandoned the making of oil.

In some cases this has been hastened from the fact that in the early stages of olive planting many varieties of olives were planted which were not well adapted to pickling on account of their inferior size and appearance, nor were they well adapted to oil making on account of either the quality or quantity of oil furnished. Another factor which has some bearing upon this condition has been the planting of fruit upon the poorest kind of soil, and the general lack of care given to the orchard after planting, under the mistaken idea that the olive tree would grow under the most unfavorable horticultural conditions. Indeed, this idea was fostered and encouraged by writers with facile pens in the earlier years of the industry. As a result of these teachings, large areas were planted under such unfavorable conditions that almost without exception they have given such poor returns as to discourage both the grower and his neighbors. The effect of errors of this kind is difficult to overcome. Such a condition, however, is not confined to this industry, but is to be seen in the early stages of all horticultural crops. As an offset, however, it should be distinctly understood that where the olive orchard has been planted upon soil well adapted in depth, quality and physical condition, and the varieties planted have been those good for pickling and oil, and the orchard has been well cared for, favorable results have been secured, and are still being secured, and the orchard has returned a reasonable profit on the investment. It can not be insisted upon too strenuously than the olive, like other fruit-bearing trees, appreciates a good soil and requires care, and under no other conditions can favorable returns be expected from it.

Competition With the European Product.—Another serious obstacle to the success of the industry has been the indifferent quality of oil which has been made by so many operators. In the face of the competition of so cheap an oil as the cottonseed, the chief competitor of the olive as an edible oil producer, and the attendant high cost of producing strictly pure high-grade oil, unless the maker is prepared with the most efficient machines and so handles the olives as to turn out a strictly high-grade product, there is little inducement to enter upon the making of olive oil. That there should and would be a ready market in this country for all the olive which could be made in this State is evidenced by the importations of foreign oil as set forth below:

	1902.
Spain	$ 341,412 78
France	940,318 42
Italy	1,041,277 61
Greece and Turkey	10,974 90
Portugal	646 92
Austria	449 16
Total	$2,335,109 80
Total for nine months ending March 31, 1903	1,314,676 00
California production	150,000 00

To make this oil, however, at a cost which will compete with the foreign product, it is essential that only the most efficient machines be employed in the mills, and that these mills be of such capacity as to handle large quantities of olives in the most economical manner. This can only be done by central mills located in regions best adapted in climate and soil to the growth of the olive. Under such conditions we may reasonably expect the oil industry, when coupled with pickling, to give reasonable returns upon the investment. As with the dairy industry, it is only under such conditions that we can expect a uniform product to be made at the lowest possible cost, and that the highest price can be realized for the fruit.

The Market.—There is a market demand for a high-grade, untainted oil, and it will not tolerate, at a price which will repay the cost of making, anything less than this. Its preference will rather be given to the low-priced neutral edible oils appearing under the undistinctive name "Salad Oil." There are those who at first put up good products, and who know what a good product is when they taste such goods, but who have gone out of the oil business simply because, in spite of the finest kind of olive varieties, machinery and installation, they neglected the most elementary precautions and spoiled otherwise perfect raw material. At first they sold all the oil they could produce, but gradually drifted into careless methods, and in the same degree accustomed themselves to the foreign tastes in their oil that the market would not tolerate. The market is invariably blamed, but in this case it is not the guilty party. As in the case of wine, each producer is firmly convinced that what he produces is perfection itself, and if the market does not appreciate it, it is due to its depravity. Others there are who, failing to sell a spoiled article, blame the variety, soil, climate, and everything imaginable except their own carelessness.

Notwithstanding all that has been said, there are many in the State who have made a success of the olive business, especially those who have limited themselves to the growing of olives and selling them to a mill prepared to handle the crop from a manufacturing standpoint, which under such conditions could afford to pay a fair price for the olives. The cost of oil machinery, the extreme care necessary to make a strictly high-grade product of either oil or pickles, and the necessity of creating a market, should deter those with small capital from going into the business with the idea of making oil alone for profit.

Prune Picking at Sunnyvale.

This is a land of few fences and unbounded hospitality, writes L. Clare Davis from Sunnyvale, Santa Clara county, to the Stockton Mail. Prunes grow along the roadside and "El Camino Real" is a paradise for tramps. They have but to halt under a tree and collect the living which they seem to feel the world owes them. Every watering tank beside the road has its colony of my loafing, smoking white brethren who toil not, neither do they spin, and who wouldn't change places with the President of the United States. In these vacation days I do not find it in my heart to blame them much, for life under a tree is a thing to desire in August.

In the same picture, just across the road, under similar trees, will also be found colonies of my brethren, the little brown men whose nimble fingers are gathering up prunes in boxes at the rate of from $2 to $3.25 a ton. Close beside them, and always on the side of the road avoided by the "Weary Willies" are whole families of Italians and Portuguese, also gathering up the crop, the baby of three or four not being considered too young to add his quota to the sum total.

Two to three dollars a ton isn't much, but one person can pick from a half ton to a ton and a half a day according to the size of the prunes, the weight of the crop and the dexterity of pickers. It can be seen that a family could make good wages.

I am not drawing any particular conclusions; there is the picture, "Weary Willies" on one side of the road, busy foreigners on the other. In the perspective stretching on into the future each can paint the picture as he sees it.

Neighborly Help.—I believe that no fences foster human brotherhood, and the fruit business more than any other makes a community interest. When a man can step from his own land to his neighbor's without opening a gate or climbing a fence he gets closer to his neighbor.

At any rate in this land of cherries, 'cots, peaches and prunes there's a level that I have not struck in many communities. When a man or woman has finished the work on his or her home orchard here, if the neighbor needs help he gets it. If the neighbor gets crowded, he isn't afraid to come and ask help because he knows that he will probably have a chance to return the favor at some time or another. I don't mean that the help is given for nothing. Quite the contrary. But this spirit of the land owner and his family being willing to work for his neighbor when peaches need cutting or prunes gathering, redeems labor from a mere dollar and cents equivalent. It dignifies labor and at the same time fosters fraternity. Besides, it helps to pay off the mortgage sooner, and makes the fruit man more independent of irresponsible labor.

A Girl's Way.—I saw an illustration the other day of what the "Higher Education" has done for the prune man. A fair Stanford co-ed spending the summer vacation on her father's fruit orchard here in the valley was helping to gather prunes. Was she attired in a dainty shirt-waist suit, with high-heeled low shoes, lace hose and a picturesque summer hat? Not on your life! She had on a pair of brown overalls, man's size, and she was applying all the science she had learned at Stanford to the fruit problem.

Instead of bending over and breaking her back to pick up prunes she lay face downward and reached out with both hands for the sugary fruit like a veteran baseballist sliding for base on a home run. (I'd like to have this paragraph edited by my co-laborer La Plata Davis, who writes "Sporting Dope," to be sure that I'm using the right baseball talk).

When she was ready to move from one tree to another she didn't waste time getting to her feet and giving her overalls a hitch around the waist and then another over the knees as she got down; she just rolled over and over, like a baby who isn't big enough to walk and hasn't learned to creep, and in a moment there she was with the least possible loss of time ready to tackle another lot of fruit. Rah, for college training!

I didn't look up her record to see whether she gathered more fruit than anybody else. I didn't care a copper penny about that. She had learned what women are slow to learn: How to save themselves most while doing their work.

Mexican Orange Growers Discouraged.

A dispatch from Tucson last week says that reports received lately from the orange groves of Sonora, Mexico, are of gloomy nature. It is told that thousands of acres of orange trees are being abandoned or cleared for other and more profitable crops. The long drought has caused the orange growers heavy losses, but the principal difficulty seems to be over the impossibility of competing with the California product. The only advantages possessed by the Sonora orange is its earlier ripening, for practically all the trees are seedlings. The past season was so backward that the California product was in the market with a better grade of oranges almost as soon as the Sonora crop ripened. So hundreds of carloads of sweet oranges were allowed to rot for lack of a market. All along the border good oranges were cheaper than potatoes.

THE VINEYARD.

Fighting the Phylloxera.

We have at present a well known and successful method of combating phylloxera by the use of an injector and carbon bisulphide. Some vineyards of France and Germany have been protected for the last twenty-five years by the careful use of that insecticide. In some of our loamy soils, where the fumes penetrate easily, I have no doubt this would be highly successful, but in the adobes it would have to be tested carefully before deciding on the value of the method. The agricultural experiment station has imported one of these injectors and will make some tests this season to find out the cost of the treatment.

When we come to examine other countries where the production is smaller, especially on the hill lands, the cost of the treatment would be prohibitive and resistant stocks are the only salvation, unless a very cheap method of control can be found. Such a

method the scientists of all Europe have failed to find after forty years of research. This is not a reason, however, why we should give it up. The agricultural experiment station is doing some investigating at the present time along this line.

Resistant Stocks.—Resistant stocks do not become non-resistant when planted in unfavorable soils. If they do not grow, but die, it is for lack of adaptation to the soil, and not from non-resistance.

The shedding of the bark on resistant stock is due to a different conformation of the generative cell layers, and the resistance is due to that, and also to the difference in their bark tissues and vascular bundles, and not to sap conditions.

American vines "improved" by culture are less resistant, because the first stocks from which they started were low in resistance and may have been hybridized with vinifera varieties. Improved resistant stocks—that is, resistant stocks that have been selected for several generations—have shown that they improve in resistance with culture. The idea that the resistance of vinifera in sand is due to "blood conditions" is entirely erroneous. It was proved a long time ago by Marion and G. Poex in France and Vannuccini in Italy that the mobility of sand particles and capillary phenomena were the cause of the "resistance." The mobility of the sand particles prevents phylloxera from moving, and the insect, hemmed in by little particles of grit, is a center around which the moisture collects, forming drops of water that drown it. This is one of the popular demonstrations given to students in the viticultural colleges of Europe.

We have at Berkeley many copies left of the old report of the Viticultural Commission, containing a translation of Prof. Valery Mayet's work on phylloxera. This contains a detailed account of the bisulphide treatment, and it can be obtained for the postage (5 cents) by writing to the agricultural experiment station, Berkeley, Cal.—Prof. E. H. Twight.

Grapes as Stock Feed.

It looks now, says the Stockton Mail, as if the yield of grapes this year is going to be excessive, and the prices may run as low as $7 or $8 a ton for the wine-making product. Utilization of the promised surplus is now being discussed by vine growers.

Ed Ladd of Stockton, who has a vineyard coming into bearing beyond Linden, has made a study of viticulture for many years and has had practical experience in feeding grapes to stock, with good results. Sixteen or twenty years ago, when the price of grapes was very low, he had charge of the buhach ranch. Mr. Ladd dried a lot of grapes and shipped them to trans-Mississippi points, where they were moistened and made into wine. Five carloads were thus disposed of at a profit of about $2 a ton. Some of the grapes had been dried too much and were not shipped. Mr. Ladd decided to experiment with them as food for mules. The allowance of barley was discontinued, the grapes taking its place, and the mules were kept in first-class condition.

"Before that," said Mr. Ladd to a Mail reporter, "we used to lose a mule every once in awhile, owing to the dry feed. They would simply keel over and die. As a physic, to counteract the effect of eating nothing but hay and barley, I used to put hyposulphate of soda in the water trough once a week. But after they began to eat grapes instead of barley there was no trouble, and we lost no more animals.

"My experiments were not carried on scientifically, with the view of ascertaining the exact nutritive quality of the grapes. I simply substituted that food for barley and watched the results. The mules were in excellent condition after the change. I fed grapes to the milch cows also, with like good effect.

"Grapes will not keep for any length of time without drying, and so I dried them, although stock will eat the fruit in its fresh state. Even dogs and coyotes like grapes, and go out into the vineyards to eat from the vines. The drying can be done on muslin stretched on the ground in the sun or on ordinary building paper. At the time my experiment was carried on, ground barley was worth $18 to $20 a ton, but I never paid close enough attention to ascertain the relative value of grapes as stock food, in comparison with barley, at that figure. Pumace is frequently fed to hogs and cattle, and in my opinion dried grapes would be excellent mixed with bran, as a milk producer, as they contain sugar and phosphates. The grapes should be stemmed before feeding, except for cattle, which will eat the stem as well as the fruit.

"As far as I know," continued Mr. Ladd, "grapes have not been exploited as feed for stock, although in a number of cases the owners of vineyards have turned hogs out to eat the fruit from the vines when prices were low. A neighbor of mine, who was a strict prohibitionist and had scruples against selling his grapes to the winery, turned his hogs into the vineyard, and he informed me that it paid him to do it. We used to buy young hogs to eat the overripe apricots and other fruit which was not fit to ship, and there was money in it.

"My impression, gained by observation, is that it will pay to feed grapes to stock when the price is only $7 or $8 a ton. There is going to be a large amount of culls this season, made up of Tokays and Muscats, that can't be made into wine, and the surplus can be disposed of to advantage by feeding to stock."

AGRICULTURAL SCIENCE.

The Walnut Disease or Blight.

To the Editor:—I am anxious to read the articles on walnut blight which were published in the Pacific Rural Press June 25, 1898, and June 24, 1899. Perhaps, in view of the fact that the above disease is still of considerable interest to very many, you might see your way to publish the articles again.—W. E. L., Santa Barbara.

Both the articles to which our correspondent refers contain the conclusions of Prof. Newton B. Pierce, vegetable pathologist of the United States Department of Agriculture, in charge of the laboratory at Santa Ana, and these conclusions are as follows:

Walnut Bacteriosis.——The disease of most interest at this time to the walnut growers of California is that known as walnut bacteriosis. It is a disease capable of affecting all of the tender and rapidly growing parts of the tree of the Persian walnut, such as the twig, leaf and fruit. It is induced through infection by and development of a specific microorganism, a cryptogamic vegetable parasite belonging to the group of bacteria. This organism or germ is in its simplest form a short rod-shaped vegetable cell, only about one and one-half times as long as broad, commonly seen in pairs and occasionally united into thread-like chains. The individual germs are actively motile when placed in fluids, as water, potato extract, etc. Their motility is due to the possession of polar flagella, often much longer than the germs themselves, and which by waving movements in the fluids serve to propel the germs with considerable rapidity, considering their microscopic size. Like other bacteria, the walnut germs increase in numbers very rapidly by a process of elongation and division (fission). Under favorable conditions a single germ may increase to over a thousand billions of germs in twenty-four hours.

The walnut organism has been grown on a large number of artificial culture media, both liquid and solid. It grows very rapidly upon starchy vegetable tissue, such as steamed potato, upon which it presents a light yellow color and develops rapidly.

How It Affects the Walnut.—The injuries which this germ effects upon the new shoots, the leaves and the nuts of the walnut are brought about through its ability to secrete chemical ferments or enzymes. One of these ferments is similar to that found in germinating barley, a disastatic ferment capable of converting starch into grape sugar. Another is a peptonizing ferment, an agent capable of converting the proteids into peptones. By such chemical action upon the tissues of its host the organism is capable of breaking down the tissues and altering the cell contents. These liquid chemical ferments increase in quantity as the germs multiply, soaking outward in all directions from the point of infection, acting upon the cells and their contents in a manner to prepare them as nourishment for the multiplying and spreading organisms. By examining affected branches or nuts when the disease is actively spreading, narrow bands of tissue having a watery or water-soaked appearance are found to lie between the blackened center of the diseased spots and the healthy surrounding tissue. This encircling watery tissue represents the zone of cells being acted upon by the chemical ferments. By means of these ferments this organism is capable of destroying the tissues of the hull, shell and soft kernel of growing nuts. Upon the leaf it destroys the soft parenchyma of the blade and very commonly considerable portions of the veins as well as the stalk or petiole. Upon the branch the germs destroy all tissues inward to the pith, if the shoot is tender.

How the Disease Is Communicated.—Infection may take place at almost any tender and rapidly growing portion of the nut, leaf or branch. Older tissues are not likely to be injured. That form of infection of the nut which causes the greatest percentage of loss is what may be termed blossom infection. In this case the infected spot first becomes observable at the blossom end of the young nut, close to the base of the floral organs. At first a water-soaked spot is apparent, which later shows a black central point surrounded by a watery margin. Often a minute drop of decomposed tissue filled with millions of the walnut germs breaks out at the center of infection, and this, when dry, forms a minute scab-like flake resembling a small scale insect. By cutting across the end of a young nut at this stage of the disease, the water-soaked tissue within will indicate how far the ferments have acted upon the tissues. At a somewhat later stage it may be found that the organism has entered the jelly-like kernel of the nut and is rapidly digesting it. At this time the interior of the membrane of the kernel may contain almost a solid mass of this specific walnut organism. Later, however, when more decomposed, the nut may harbor various species of bacteria decomposition. Lateral as well as blossom infection of the nut takes place. In the case of blossom infection a large percentage of the nuts falls when small or before they are half to two-thirds grown. With lateral infection the loss is less severe, and if the infection takes place late in the season the loss will be less, owing to the hardening of the tissues and the consequent inability of the ferment to decompose the hull and shell.

Can Attack Healthy Nuts.—The inability of the walnut germ to induce infection of the nut without the aid of insect punctures or mechanical injury of the tissues has been ascertained. Pure cultures of the organism growing upon potato have been added to sterile distilled water in an atomizer and sprayed upon hundreds of healthy walnuts. These nuts have thus contracted the disease in a typical manner, while unsprayed nuts on adjoining limbs have remained healthy. In many cases hundreds of infected points have developed upon single nuts thus sprayed, and these infections have been confined to the sides of the nuts so treated.

Heavy dew or fog resting upon the nut, branch or leaf will favor the germ in inducing infection and aid in its distribution. All bacteria also requires moisture for growth as much as the higher plants. With the walnut germ it is possible, it is believed, for it to use the wet surface of the walnut tissue as a means of enabling it to swim directly into the stomata or pores of the plant, where the moisture conditions for permanent and rapid increase would be found.

Winter Habitat of the Germ.—The walnut germ winters in diseased branches of the tree, often in the moist pith cavities lying below diseased spots. It also winters in fallen nuts beneath the tree, and probably upon fallen leaves and upon the soil.

The most prolific sources of germs for the first spring infection of the new growth of the tree are apparently the centers of disease remaining on the branches during the winter. The warmth of spring brings about a renewed growth of those germs living through the winter. Many of these are apt to fall from diseased branches upon the newly opened leaves. Here the conditions are such as to favor rapid increase, and the new growth and nuts become more or less generally infected.

Treatment.—In the treatment of this disease the manner of spring infection should be most carefully considered. An effort should be made to remove as completely as possible the prime sources of this early infection. The fallen nuts and leaves should be plowed under deeply or gathered and destroyed. The tree should receive careful pruning to remove all diseased parts. Besides these two essential considerations, it may be thought well to spray young trees in the winter with the Bordeaux mixture for the purpose of disinfecting the trees as perfectly as possible. Twenty acres of spraying experiments showed a saving of one-half—i. e., there was, on an average, twice as many diseased nuts fell from the unsprayed trees as from those thus sprayed.

AGRICULTURAL ENGINEER.

Oiled Roads in Santa Barbara County.

Statistics collected by the State Department of Highways in Sacramento present some interesting facts concerning the history of oiled roads in Santa Barbara county.

There are now about 30 miles of oiled roads in Santa Barbara county, which was one of the pioneer counties of the State in the oiling of roads. Soon after the discovery of oil at Summerland, on the southeastern coast of that county, in 1894, oil was used in a small way in the immediate vicinity of the wells, the first application being made to the road surface of Oretega hill, on the borders of Summerland. From that small beginning the use of oil on roads has extended until now it is the favorite method of that section for laying dust and making a good all-the-year-round road.

Methods Employed.—Various kinds of soils abound, adobe, red clay, alluvial and sandy, and thus far the oil has been put on the roads without much system in the application. In some cases the roadbed has been plowed up, harrowed and leveled, and then the oil worked in with a spiked roller. In other cases it is sprinkled on the road when dust prevails and allowed to settle into the dust until it packs from the passing of wheels. Where there is no dust and the road is quite hard, sand is sprinkled on after the oil is applied, to take up the surplus so that the surface will pack under the wheels. The best results have been secured by applying the oil when the surface of the road was covered with a sandy dust of not too great depth, about 1 inch being most satisfactory.

How the Oil Is Put On.—In applying the oil there has been used a sprinkling cart with an apparatus regulating the flow of oil accordingly, as it is thick and heavy, or light and more fluid. Some of the country roads are oiled the width over, which the sprinkler distributes the oil at one passage. Where the travel is greater, twice that width is sprinkled,

making an oiled strip of perhaps 20 feet in width. Sixty barrels will give a mile of road one application, the width of the sprinkler, or from 100 to 120 barrels for double that width. The heavier the oil the more satisfactory the results from the same quantity.

The interval allowed between the first and second application of oil depends much upon local conditions, character of roadbed, etc. The first application should be thoroughly incorporated with the soil before the second is put on. Special attention should be given to places where the soil is particularly loose and larger quantities of oil applied at such points. Generally as much oil has been used on the second application as on the first, though after a second application under usual conditions the quantity may be reduced each time. It is seldom that more than a fourth application is necessary to secure good results.

When Necessary to Heat Oil.—The oil is heated so that it will flow more readily from the sprinkler. It is no longer considered necessary to heat it so far as its effect on the roadbed is concerned. The lighter the oil the less need for heating. It is generally heated by steam to 180° or 200° at Summerland, but by the time it reaches the points of application to the roads in the vicinity the temperature has dropped to 125° at least. As the oil exported is usually heated to drive out the water found in connection therewith, there is little or no extra charge for supplying the oil heated.

The specific gravity of the oil is from 12° to 16°. The expansion caused by heating depends upon the gravity of the oil and the quantity of water contained therein. It is said that a 10% increase by expansion would probably be an average, though very much depends upon the quantity of water contained in the oil.

The oil used in the vicinity of Santa Barbara is obtained at Summerland, 5 miles east of Santa Barbara, and has varied in price from 40 to 60 cents per barrel of forty-two gallons. For the country around Santa Maria the oil is obtained from La Graciosa oil district, about 10 miles from Santa Maria, at a cost of 60 to 80 cents per barrel. The average cost per mile of applying to the road is about $15, estimating a haul of 5 to 10 miles.

The Number of Applications.—As to the amount and frequency of subsequent applications, everything depends on the character of the wearing surface. If it be such that the oil forms by admixture with the sand a species of asphaltum pavement, an effect which has been noted in some instances, then the road is easily kept in order. If, however, the oil does not readily amalgamate with the soil, and the passage of vehicles tends to break up the surface into small particles, then the oil must be applied until a good wearing surface is obtained.

The most troublesome natural disadvantage encountered in maintaining oiled roads in good condition has been the lack of homogenity in the soil, some places being soft and some hard. The more nearly the road surface is made homogeneous the better are the results from the application of the oil.

Santa Barbara Likes Oiled Roads.—The oiled area around Santa Barbara county is being constantly extended. Probably 10 to 15 miles will be treated this year in addition to the present system. The work is still somewhat experimental, but more persons are each year being impressed by the possibilities for good oiled roads. Occasionally a particularly successful application proves an object lesson as to what may be done when all the conditions are favorable, and these object lessons steadily make converts to the method.

In the northwestern part of the county, around Santa Maria, about 8 miles of road and street have been oiled with pronounced success. The soil of that section is very sandy, and through the use of a large quantity of oil excellent results are produced. By using a fine gravel with the oil a better road is secured with less oil. There is so much loose sand that in some places it is almost impossible to get enough oil in it to keep it from breaking up under the passage of heavy teams and vehicles. By the application of gravel the tendency to disintegrate is obviated.

Gravel the Best Base.—In the vicinity of Lompoc the work of graveling the sand roads has been commenced, to give them the necessary base and solidity for oiling. It has been demonstrated that it is less expensive to make the roadbed solid by graveling than to build it of sand and oil. It requires only about one-fourth as much oil to make a good road where a gravel base is provided as it does to make a road entirely of sand and oil. The gravel base if properly constructed withstands the wear and waste by heavy traffic and, with additional applications of oil, as the volume of travel requires, develops a permanent surface more substantial and in less time than in the case of roads built upon the natural sand alone.

Completing the Mono Lake Basin Road.

To the Editor:—Referring to your article in the issue of August 27 concerning the Mono Lake Basin Road, I will say that this Department is now advertising for bids for the construction of a part of said road. Every opportunity has been given the people of Mono county, who are vitally interested in the matter, to bid on the work, which is difficult in its nature—so much so that outside contractors do not seem inclined to take hold of the proposition. Plans and specifications have been placed for inspection at prominent places throughout Mono county, and public notice given of that fact, and everything done that seemed possible by this Department to facilitate the preparation of bids by the people of that county, as well as by all others. I am sending you by this mail a copy of the specifications, which may be of present or future interest. Clark Alberti, Secretary.

Department of Highways, Sacramento.

We have the specifications mentioned above and will be glad to show them to anyone interested. It is stipulated that the work is to be completed August 20, 1905.

THE STOCK YARD.

The Stock Breeders' Convention.

According to the announcement and programme published in the last issue of the Pacific Rural Press, the first annual convention of the Live Stock Breeders' Association of California met in the Senate Chamber, August 29. The Sacramento Union gives an outline of the proceedings:

Association Officers.—The officers of the Association calling the convention are E. W. Howard, San Francisco, president; J. H. Glide, Sacramento, vice-president; N. A. Chisholm, Jacinto, secretary; Chas. D. Pierce, San Francisco, treasurer. Directors—E. W. Major, Berkeley, P. J. Shields, Sacramento; Charles H. Blemer, Sacramento; Isaac Bird, Merced; F. I. Hodgkins, Lathrop; A. B. Evans, Fresno, and James Whitaker, Galt.

Mr. Howard called to order, and Prof. E. W. Major was elected secretary pro tem.

President Howard then said the object is to promote the live stock industry. A more worthy object could be scarcely named, as the industry from an economic aspect related to the highest and best interests of the State. Agricultural education had close relation to the industry; practical education on the University farm, to which already both great political parties had pledged themselves in their platforms. It was necessary to secure a large membership for the Live Stock Breeders' Association, which is yet in the formative stage. He warned the convention against dissentions and to decide upon nothing that would not be fair to all interests.

Agricultural Education.—Dr. James W. Wythecombe, of the Agricultural College of Oregon, said the State was great in many things, but had not yet touched fully its greatest need—agricultural education—especially as related to live stock culture. Agriculture is the science of sciences, and requires the best trained minds. The farmer, above all men, should be an educated man, trained to know and apply the great laws of life. Build up that sentiment, and California will develop by leaps and bounds. The young man, trained to the science and art of agriculture, has a noble future before him. Promote such education and the time will come when the whole State will pay honors and tribute to the system. Stand by the agricultural fairs, though they may be in clouds now; stand by them and they will prove great factors in the purpose of such education.

Judge P. J. Shields of Sacramento, on the same subject, said in part: The Agricultural College of the State should and will be efficient to the highest degree in training the people we have, the native Californian, rather than those we are inviting to come. California, in agricultural education, is very backward; it has been said to be the most backward of any State relatively to our advantages and resources. Such is the judgment of the very best authorities, who declare our greatest need to be a school that will lay the foundation for the building up of our greatest industry and concern. He wanted a strong working committee to present the subject to the Legislature and secure for it the recognition it deserves.

L. M. Foulk of Gazelle said without any doubt a due appropriation will be made by the next Legislature for the founding of an Agricultural Farm School supplemental to the University. Such a system must be and will be set up. He cared not for location or cost, all issues but the one must be eliminated. It means building for future generations. California must get abreast with this concern in this matter. The Agricultural Department of the United States has so advanced until it is one of the most important departments of the Republic.

Tuberculosis.—Dr. R. A. Archibald, veterinary surgeon of Oakland, spoke on what the president said was a most important subject, tuberculosis, one that from the breeder's standpoint is of first interest.

The doctor read from manuscript, and he believed California is to become the greatest stock breeding State of the Union. Whatever assails that interest must be met. Tuberculosis must be stamped out. The campaign against it, though prompted by honest motives, had been so radical that breeders had not been able to realize its benefits, and so enmity was kindled.

The simple fact is that the disease is on the increase in the State, and movement to eradicate it cannot be put off. Breeders must take up the matter, but whatever is done should proceed upon conservative lines. The cattle interest suffers greatly from the disease and from inspection necessary.

The convention should outline a policy relative to legislation, quarantine and treatment of this preventable disease. Denmark, Sweden and other nations put off action until the disease became a national calamity. Then came action that will free Europe from the disease. We should learn a lesson from the example of foreign States.

Sheep.—Dr. Withycombe then read a paper on sheep. No country continues prosperous that constantly grows grain. Sheep husbandry by the California farmer, he believed, had not been fully appreciated. He sketched the history of sheep culture and its development from low to advanced levels. The time is at hand when quality in meat products will be the chief demand.

Feeding Beef Steers.—L. M. Foulke read a paper on "Feeding Beef Cattle and the Advantage of Using Chopped Hay." He advocated chopping feed as producing the best meat. He said the complaint about scrub cattle is wrong; it ought to be about the scrub man who tries to feed cattle.

There must be dry corrals for the steers; they must be graded according to condition and separated; they must have the best well water to be had; clear, good water is essential for successful results.

The steers must be fed all they want, but at regular hours. Chopped hay has great advantages over long feed. His experience with 2000 head had shown that with chopped feed the gain is 25% over long hay. The latter is usually fed in racks to avoid waste. The steer has to reach up for it, and that is work, hard work, and the animal does not feed in a natural position, while the stronger will drive the weaker from the racks.

The less exertion the animal has to make the better its digestion; the more comfortable he feels and the better he fattens. He chops fifty-five tons of alfalfa a day in feeding his steers, and the gain is a large percentage. He uses large platforms on runners to feed with. The chopped hay is moistened well and given to the animal just as it wants it, and he finds that the cost of chopped feed is actually 15% cheaper than long feed.

Mill feed he introduces also for change. One who once tries for a full season chopped alfalfa will never return to the long feed. Six years' experience had proved to him that chopping makes 100 tons of alfalfa go as far as 125 tons of long feed and gives better meat for the market.

Cattle for the Show Ring.—N. C. Maris read a paper on "The Selection and Fixing of Cattle for the Show Ring." Mr. Maris is a breeder and fitter of long experience. He said California, with all its advantages, opened to him the splendid possibilities it offers for fitting cattle for the show ring. Many cattle are injured by overfitting, but the greater result of proper fitting is good. He then told how to study the type and select an animal with certain characteristics; when to select the animal; how to judge its form when young; how to study the pedigree and how to examine and know the flesh that will fatten and develop as desired. He then took up the fitting process, beginning with calves, and told his hearers how to handle them and teach them not to fear and how to wear the halter; what exercise to give them; how to house and groom them and feed them. Above all, he said, one must love the animal and without that no success can be obtained and its confidence cannot be secured.

The Science of Breeding.—Cornelius Baldwin read a paper on "The Science of Breeding." Of agriculture he held stock breeding to be the greater factor. A people he judged by the superiority or inferiority of their domestic animals. He pronounced breeding domestic animals to highest purpose a high art. There must be fine selection, but with unskillful persons it will result in degradation.

Nature improves upon her own work and great changes come about by the law of natural selection. Nature will respond to the efforts of man to produce the highest types of domestic animals, if nature's laws are observed, namely the law of selection.

Improvement to be maintained requires favorable environment. He believes that fine breeding will be greatly advanced by an agricultural training farm, related to agricultural education Herd books and breeder's papers do much to raise intelligence upon breeding. The demand for best results in milking, in butter making and beef for export lifts the breeding art to higher levels.

He then described the physical characteristics which distinguish the stock to be selected for breeding beef cattle and in detail set forth all the points indicating the quality of the flesh. He next presented in detail the points which indicate the desirable animal for dairy purposes.

The second day's proceedings are in progress as we go to press.

Agricultural Review.

Alameda.

HOP VINES DOWN.—Pleasanton, Aug. 25: The unseasonable rain and the heavy dews which have fallen during the past few days have caused about 125 acres of nearly ripe hops to become lodged on the big hop yard of Lilienthal & Co., near here. The weight of the damp hop vines caused the strings to break and the mass slipping from the poles now lies on the ground. It is reported that there is much danger of a still greater quantity going down for the same reason. The hop picking would have commenced to-morrow, and the crop is one of the largest ever raised in the State. Just what the amount of the damage will be is to be determined after the pickers get to work. Damp weather would increase the danger of loss.

Butte.

NEW FRUIT FROM CHINA.—P. H. Dorsett of the Government Seed Garden has received from the Orient a sample of the Chinese fruit yang taw, which, it is thought, will be a rival of the Navel orange, and also four slips of the tree which bears this fruit. The fruit itself came in two bottles, preserved in alcohol, and the slips have been on the road for months, being carefully packed, so that they would not be ruined by transportation. There are two separate varieties which have been received. One of these has a smooth skin, while the other has a fuzzy skin, which greatly resembles that of certain peaches.

Colusa.

ANTHRAX IS ITS NAME. — Herald: Microscopic examinations of specimens from the diseased cattle on the east side plainly indicate the presence of anthrax. Vaccination is taking place among all the herds and all cattle not innoculated with the disease will soon be out of danger. Several owners have moved stock to other pastures, as no quarantine has yet been placed upon this range. Some complaint is being made of stock from this ranch being driven to other pastures along the public highway, as in browsing by the wayside and rubbing against fences it is claimed the nasal discharge and the manure is poisonous to healthy stock. Veterinarians state that parties handling infected stock should be careful not to break the skin of the hands or unduly expose their bodies to the infection. The germs work down into the hair pits or follicles, or grow rapidly in a place where the skin is removed.

Glenn.

SHEEPMAN DEMANDS $1600 DAMAGES.—Willows special to Sacramento Bee: August Estram, a well-known sheep man of Butte county, has brought suit against E. P. Draper of San Francisco and J. R. Talbot and S. P. Sherfey of Willows, all of whom are engaged extensively in cattle raising in Glenn county. Estram asks for $1600 damages. He placed thirty bucks recently imported from Persia in a pasture belonging to the defendants, and claims that the defendants allowed his bucks to run with their ewes and breed with them, thereby making the bucks of no value for breeding purposes during the season of 1904.

Los Angeles.

SHIPS ITS LAST CAR OF ORANGES.—Pomona Progress, Aug. 25: The Pomona Fruit Growers' Exchange shipped its last car of Valencia oranges Thursday, making a total of 628 cars of oranges for the season as against 480 cars for the season of 1902–03.

Modoc.

SEEK FEED FOR CATTLE.—Cedarville special to Sacramento Bee: The Miller & Lux cattle firm have men in this section with the point in view of ascertaining if it is profitable to buy hay and feed for beef cattle so that, as prices justify, stock shipments may be made to the markets throughout the winter and spring months. The idea is to feed 6000 to 10,000 head of beef cattle, if satisfactory arrangements can be made with the ranchers who hold the hay and with the management of the Nevada, California & Oregon Railway. From here the agents will go to Honey Lake valley in Lassen county, inspecting that place with the same purpose in mind.

Nevada.

PEAR CROP VERY SMALL.—Grass Valley Union: As was announced some time ago, the pear crop this season is going to fall considerably short of last year's harvest. F. M. Reed of Grass Valley yesterday commenced picking the crop on the Sutton place and about 300 boxes were picked, but upon assorting them for shipment there were but few boxes that were marketable. It is thought that this state of affairs is generally prevalent throughout this district.

Riverside.

POULTRY RAISING.—Perris Progress: John Noonan is working into the poultry business on a basis that bids fair to become profitable. After selling several hundred young roosters, he has about 700 chickens left, mostly young pullets that will soon begin laying. Mr. Noonan estimates that each hen should produce about 175 eggs per year which, at an average price of at least 20 cents per dozen, will surely produce a nice little net income above cost of feed for each year's work. Hugh Greer is another chicken fancier who is making poultry raising his business. Mr. Greer started last year with about 500 hens, which now net him a respectable income. C. Vermason has about 300 chickens at his place, of which more than one-half are young chickens and the balance laying hens. During six days of last week Mr. Vermason fed them all $2.18 worth of feed and sold $4.50 worth of eggs. The cost of the feed should really be divided by 2, as not more than half of the chickens were old enough to lay.

Sacramento.

A STINGING BUG.—Union: There is a bug quite plentiful about Sacramento that is anything but harmless. The insect is about three-quarters of an inch long, with a body like an elongated diamond slightly raised along the center. The head is round and quick-moving and has short feelers. The insect has short legs and it moves with exceeding rapidity. The color is a dark brown, with a bronze tinge on the belly, and the eyes are bright but very small. Friday evening a citizen seeing one of these insects moving rapidly upon the garments of a lady friend, seized it to throw it from the window, when he instantly experienced in his index finger the most violent pain—he had been stung by the insect and so severely that the finger began to swell at once and the pain extended up the arm. It was necessary to apply radical treatment to give relief and it was an hour before there was cessation of the pain. These bugs are to be seen almost any evening, especially where the foliage is dense. They invade houses and are often found upon the clothing of warm evenings. [The insect above described is what is known as the kissing bug.—ED.]

San Bernardino.

TREATMENT FOR INFECTED CATTLE.—Chino Champion: The Chino Land & Water Co. is building a cattle dip for the eradication of ticks from their cattle. The pit is 24 feet long, 7 feet deep and just wide enough for an animal to walk through. It is lined with brick and cement. Crude oil and water is the material to be used. We understand that the company's cattle are at present free from the ticks, which produce Texas fever, but inasmuch as some parts of the ranch has become infected, this pit is constructed to be in readiness should the disease appear.

RAISING PARASITES FOR BLACK SCALE.—Times-Index: The little scutellista is the hope of the fruit grower, and from reports brought back by Horticultural Commissioner Pease it is getting in its work in a business-like way. Prospects are that the black scale will soon be a thing of the past. Horticultural Commissioner Pease has for two years been raising these parasites for the black scale, and last year released the first colony at Ontario. This season he has released thousands of the little flies, and in looking over the orchards the other day discovered that about five out of every six black scale had a scutellista beneath it.

San Diego.

RAISIN CROP.—Union: W. P. Hudson of the El Cajon Raisin Packing Company says the crop this year promises to be fair, notwithstanding the lack of rain. The grapes, however, are as big as usual, in some instances bigger. A rough estimate of the probable output of the company is 100 cars. Other packers in the district will secure perhaps twenty-five or thirty cars. The company is supplying the local market with green grapes. Picking for raisins will open about the 1st of September and will continue until the 10th or later. The packing season, which follows, will last sixty days. The company, which has recently incorporated, is going to specialize on seeded raisins, having installed a large and up-to-date seeding machine.

San Joaquin.

BEES AND WASPS.—Stockton Mail: "Wonder what makes the surplus crop of bees and wasps this year?" remarked a produce dealer. "There are more of those insects in the pear orchards than anybody ever saw before, and they're doing lots of damage." "To the pears?" asked the man addressed. "Yes." "I thought bees only attacked flowers." "That's where you're wrong. They'll go for anything sweet, and the Bartlett pear is gaining in favor among them and the wasps. The insects swarm over the pears that are cut up and placed on the drying trays, and the fruit looks as if it had had the smallpox when the insects finish work. They dig holes in the pears and make the dried product unsightly and consequently less valuable in the market. All the orchardists are complaining about it."

San Mateo.

SILKWORM INDUSTRY.—Redwood City Times-Gazette: Frank Macchi, who owns twenty acres of land in the Sweeney tract, near town, has been experimenting for some time in raising silkworms and has been very successful. This week he exhibited several hanks of fine silk produced from cocoons at this place. Mr. Macchi understands the business thoroughly, having had a wide experience in Italy. He says that nowhere in the world are the conditions for raising silkworms and the production of silk better than in the Santa Clara valley. The climate he contends is very favorable, while the soil for raising the mulberry tree, which the worms feeds on, is excellent.

Santa Clara

GREAT GROWTH OF ALFALFA.—News: The ranch of J. M. Raney, about 1½ mile from town, consists of thirty acres of splendid soil, with two wells, one 368 feet in depth and the other about 348 feet. A new Economist gas engine has been installed and crude oil is used very successfully for fuel. New platform scales are being built, in order to do away with the bother of hauling a long distance for weighing. The entire thirty acres were sowed to alfalfa last December and the third cutting has just now taken place and the yield is easily one ton to the acre. It is astonishing how fast alfalfa will grow when properly irrigated, and there is no doubt but what six crops can be secured next year from this land.

WINERY TO BE ERECTED.—Gilroy Gazette: The big winery is to be erected here after all. It cannot be built this season, for the grapes are ripening two weeks earlier than usual, but it will certainly be in operation next year. The California Wine Association has adjusted its differences with Henry Miller, and instead of leasing land from him as was formerly contemplated, has purchased six acres of him in the Bennett field.——W. B. Rankin and Joseph Columbet, representing the California Wine Association, have signed up contracts including this year's crop. Prices are on the basis of $16 a ton for Zinfandel with a standard sugar test fixed at 22%. If the test runs below the standard the grower is to be debited, and if it exceeds it, the proper credit is to be given. This season's crop is to be delivered at the cars by the grower, Gilroy scale weight to govern, and the Association is to furnish the boxes.

Sonoma

HOP PRICES GOING UPWARD.—Santa Rosa Republican, Aug. 25: Within the past few days more than 2500 bales have changed hands at 25c. per pound, and contracts are being made daily at that figure. There is quite a movement in hops at the present time and buyers are active among the growers. One strictly choice lot of hops was purchased Wednesday from a grower in the vicinity of Mount Olivet for better than 25c., but so far this is the only transaction heard of above the figure named. The record for early shipments of hops from Sonoma county has been broken this season. On Tuesday, August 23, 103 bales were shipped to the Eastern markets. The yield of hops in Sonoma county is estimated at about 20,000 bales this season. Last year the yield was only 14,600 bales. Hops run about 200 pounds to the bale, and this would make a yield for Sonoma county of 4,000,000 pounds this season. If all were sold at the price now offering, this crop alone would bring $1,000,000 into the county.

HOPS AT HIGHER FIGURES.—Santa Rosa Press-Democrat, Aug. 28: Twenty-six and a half cents a pound was offered here Saturday in some instances for hops. It is rumored that the price had gone higher, but no confirmation of the report was forthcoming.

FOLLOWED HIS COLT MANY MILES.—J. M. Cutts, a prominent pioneer of Yuba county, whose home is near Marysville. arrived in Santa Rosa on Sunday. He had traveled through Yuba, Sutter, Yolo, Lake, Mendocino and Sonoma counties, trailing a man who had in his possession a colt Mr. Cutts valued very highly. Monday morning Cutts came face to face with the man and the colt on Exchange avenue in Santa Rosa just as the man was offering the colt for sale. Sheriff Grace was also on hand and arrested the man.

Stanislaus.

ALFALFA MILL MAY BE BUILT.—Modesto News: There is on foot a movement to establish a branch in Modesto of the Cafalfa Co. of Fresno, to manufacture the new product of alfalfa. President George F. Drake and Sec. W. S. Baylis, of the Fresno company, state that the demand for the new food for stock has increased to such a degree that the erection of a larger plant has become a necessity and as this is the coming alfalfa section of the State, the construction of a plant here will be cheaper than to ship alfalfa to Fresno and mill it and then reship it. The erection of this plant will tend materially to increase the output of alfalfa in this section and thereby promote the prosperity of the entire district.

Sutter.

DRIED FRUIT PRICES.—Yuba City Farmer, August 26: The growers and buyers in this locality are beginning to do some business and the product is now moving in some lines. Standard dried peaches are selling at about 6½ cents, while fancy grades go as high as 9 or 10 cents. Sales are reported here at 9¾ cents. Pears are from 7 to 10 cents. Some large sales of prunes have been recently made on a 1½-cent basis. We understand that several carloads of bleached Thompson seedless raisins have been placed at about 7 cents for extra grades, while the unbleached lots are quoted at from 2½ to 5 cents. Local parties are paying $12 per ton green for these grapes. The Muscatel raisin market is very weak.

Tehama.

HEAVY DEALINGS IN DRIED FRUITS.—Red Bluff News, Aug. 25: The dried fruit market opened in Red Bluff and vicinity on Monday and by Tuesday night all of our growers had sold their peaches at prices ranging from 6 to 6½ cents per pound. The local buyers were the James Feeley Co. and the Tehama County Fruit Co. The Tehama County Fruit Co. bought about 200 tons.

Yuba.

CANNERY COMPLETES SEASON'S PACK.—Marysville Democrat: Thursday the Marysville cannery ceased packing fruit for the season, after a run of only thirty-five days, all of the 500 employes having been discharged with the exception of a few who will label and store the fruit put up. The pack this season amounted to about 1,000,000 cans, which is far less than the amount put up last year. All available fruit was brought here to keep the plant busy, some being shipped from as far away as Anderson.



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A safe, speedy and positive cure for

Curb, Splint, Sweeny, Capped Hock, Strained Tendons, Founder, Wind Puffs, and all lameness from Spavin, Ringbone and other bony tumors. Cures all skin diseases or Parasites, Thrush, Diphtheria. Removes all Bunches from Horses or Cattle.

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THE LAWRENCE-WILLIAMS COMPANY, Cleveland, Ohio.

Colony Tracts in Stanislaus County.

We are laying out two Colony tracts, one close to Modesto City, in that Irrigation District, and one in the country part of Turlock District, 5 miles south of Ceres. In both of them we can sell you good land, in small lots, on terms to suit. If that is what you want, we shall be pleased to hear from you.

MAZE & WREN Modesto, California.

The Home Circle.

Father and His Garden.

When Father makes the garden he makes a awful row,
He says: "Well, goodness gracious! It seems like anyhow
You might of left the rake an' spade an' shovel an' the hoe
In the place where I jus' left 'em, a day or so ago."
Then Mother says: "Why, Papa, where did you leave 'em, dear?"
An' Father says: "I guess I know; I left 'em just right here
Behine the stove jus' right where I want to find 'em when, by gosh!
I want to go an' rake the beds for cucumbers an' squash,
An' turnips, an' tomatoes, an' radushes, an' corn:
An' I tell you, if you've lost 'em, as sure as you are born
You won't have any veggytuhbles any time this fall,
Exceptun' that you buy 'em—they won't be none at all,
Unless you hustle 'round an' find the rake an' spade an' hoe
I left right here behine the stove a little spell ago."

Then Mother she jus' rocks her chair an' looks around at me,
An' says, "Why, Papa, don't you think —why, gracious!—let me see!
'Twas some time las' September that you put away the hoe
Away out in the stable!" An' Father says, "That's so!
I guess it was; an' come to think, the hoe an' rake an' spade
Is out there in the closet, the one that Billy made
For the harness!" An then Mother, she jus' begins to sing
About a bug or somethin' that happens every spring.

Then Father he goes out an' finds the shovel an' the spade,
Right out there in the stable, in the closet Billy made,
An' he goes out in the garden an' fusses 'round a while,
An' Mother she jus' watches—then she begins to smile,
An' says, "Now, Walter, darling, I wish't you'd go an' see
What's the matter with your Father; it kind of seems to me
That he's feelin' sort of tired like." So I wait around a spell
An' watch my father hoein' an' then he says, "Oh, well!
This here a-makin' garden ain't what it's said to be,
I guess I'll send for Hildreth." And then he calls for me,
An' sends me off for Hildreth, an' Hildreth says, "Oh, hum!
I always make his garden, so I guess I've got to come."
An' when I tell my Mother, she just begins to sing
About a bug or somethin' that happens every spring.

Caught in a Sea Puss.

"Why doesn't Wheaton marry?" asked a gentleman of another. "He is a forlorn looking old "bach" and needs a home."

"Wheaton will never marry. He onee loved a girl who is dead to him, but his love for her is the same."

"The old story, I suppose. Women are fickle."

"In this ease Wheaton was to blame."

And this is the story of Wheaton's fault:

Arthur Wheaton at twenty was a fine young fellow just out of college, and, being very ambitious and talented, his friends all predicted a brilliant career for him.

During the first summer after graduating he went to the seashore, where he had an adventure that colored his whole life. A girl of eighteen, Annabel Whiting, while bathing, got caught in a sea puss and was carried out. Wheaton, a splendid swimmer, went in and swam with her to one of the ropes, where he held her till the bathing master eame in a boat and got them ashore. Miss Whiting, a lovely girl, repaid Wheaton by giving him her heart.

The episode occurred early in July, and long before the end of that month the young people were engaged. Miss Whiting was obliged to leave the beach early in August, and Wheaton, having many friends there, decided to stay on. It was a great pity that he did not go with his fiancee.

The day after Miss Whiting left a party came to the beach to spend a week. They were "smart" people and drank a great deal of champagne. On the morning of their arrival two of them, a man and a woman, were standing on the beach looking at the bathers when Wheaton walked down to the water. There was some conversation between the man and woman looking on about him and his splendid figure, at the end of which a bet was made between them that the woman would bring Wheaton to her feet before their week's holiday was ended. The same day the man sought an introduction to Wheaton and in the evening presented him to the woman.

Camilla Hyde was married and thirty, though she easily passed for twenty-four. She was a striking looking woman and mistress of the art of winning men, which was with her an art and nothing more. There was no similarity between her type and that of Annabel Whiting; indeed they were antipodes. Before Wheaton met Mrs. Hyde she had heard of his saving Miss Whiting's life, and she began at once to show an interest in the matter, inducing him against his will to tell her every detail. It was still twilight, and she insisted on his going with her and showing her where and how it happened. Wheaton yielded and went with her down to the beach.

It was 10 o'clock when the couple returned. Dancing was going on at the hotel, and Mrs. Hyde and Wheaton sailed down among the dancers. Wheaton was an excellent dancer, and, as for Mrs. Hyde, she was superb both in grace and figure. After the dance the lady complained that the air in the room was bad and she must go out on to the piazza. There the two sat still till midnight.

"Good-night," said the lady. "I suppose you will go to bed and dream of your fiancee."

Instead, Wheaton went down to the beach alone, lit a cigar and threw himself on the sand. He thought of Annabel Whiting, but somehow she seemed insipid compared with the splendid woman with whom he had spent more than four hours. Four hours the first time he had met her! He could hardly believe it. The time had seemed infinitely short. He smoked in quick, fitful puffs. Looking out on the ocean, he saw again the face of Annabel Whiting, with its grateful expression as he held her against the force of the billows. But now there was a reproachful look in the eyes that he could not banish.

Two or three days later Wheaton was warned against Camilla Hyde as one who had a passion for winning hearts to throw them away. He packed up his trunks to leave, but there was no train till afternoon. Mrs. Hyde heard of his intention to escape her, waylaid him and took him down to the beach, where she held him till the train had gone. Then she secured his promise to take her out on the water the next day.

This was the only effort Wheaton made to free himself from her thrall.

The moon, which had been a creseent when the party came, was now at the full, and on the last day of Mrs. Hyde's stay she took her victim to the shore with her to see it rise out of the water. There was a hush on the ocean, in the east a glow, then a bit of light touching a wave on the horizon, followed by a flecking of many crests. When the moon eame up Wheaton was bowed down before the enchantress, his face buried in her hands, which he held in his.

The next day Edward Hyde, the husband, came to take his wife awav. She introduced Wheaton. When Hyde was alone with her he said:

"Been up to your old tricks again, dear?"

"I have won a basket of champagne on this one. We're to have it at D.'s when we meet in the city."

Wheaton remained the slave of his destroyer the next winter and drank champagne at the supper that celebrated his ruin. In the spring Mrs. Hyde threw him off. Annabel Whiting married and is now a grandmother. Wheaton is spending a lifetime repenting his weakness.—F. A. Mitchel.

Hints for a Traveler.

When entering a car of any kind, always select a seat on the right-hand side faeing the engine, and as near the middle of the car as possible, choosing also the middle car of the train if it is made up of more than two coaches. If there are but two, select the one that is the farthest from the engine, since head-on collisions are more numerous than those of the rear-end sort, says Mary Taylor-Ross in the Woman's Home Companion.

In ease of collision, the middle car of a train is often uninjured, and the occupants escape with a severe shaking up, while the car at whichever end the collision occurs is entirely wrecked, and the passengers seriously injured, if not killed outright. In accidents where a train of cars "telescopes," the middle ear is most often pushed on top of the other two, and this affords the occupants a means of escape, which is not open to those in the cars beneath.

The right-hand side of any car is always the safest and most comfortable seat, for in America the meeting trains pass to the right of each other, and go by on the left of the passengers, who face the engine. This obstructs the view from time to time of those who sit on the left-hand side of the car, and if the windows are open, the annoyance from cinders becomes quite serious at times, not to mention the dust and grime that comes from a passing train.

The adult who puts his head out of a window almost deserves any fate that befalls him, for he is old enough to have a little discretion in the matter, but a child should never be allowed to sit on the left side of an open trolley car, nor with an open window on the left side of a train of any sort, for the danger is too great to be risked to the fragile memory of a child. On the right side of the car little heads and arms can occasionally be put outside without chanee of possible injury from passing trains.

A seat at either end of a car is more likely to produce car-sickness than one near the middle, for the wheels are stationed near the ends, and the jolting is very notieeable to those sitting over them. Should an accident occur to a wheel, any one sitting near that end would receive a severe shock, if nothing more serious. In some cars the motion is barely perceptible to one sitting in the middle seat.

In selecting a state-room try to secure one on the outside, so that the views along the journey ean be enjoyed from the state-room window, instead of being obliged to go out on deck from time to time when it is not eonvenient to do so. At the same time, see that the room is as far from the engine-room as possible, to escape the extreme heat from the fires, and also to be away from the throb of the engines, which is very trying to the nerves, especially if one is at all sea-siek.

Before starting on even a short journey, always fasten securely to the lining of both purse and traveling bag a eard containing the full name and address of some one to whom a message can be sent in case of accident. The card should also contain the traveler's own name, and a duplicate should be fastened to the inside of one's coat or gown. This simple means of identification is possible to the poorest traveler, and may save mueh expense and trouble, not to mention the possibility of being carried to the hospital without the knowledge of one's friends or their distress at finding the body of one near and dear in that dreadful place, the morgue. All sensible women have such a card sewn to the lining of their purses at all time, so that if it is lost or stolen there is a chanee of having it returned.

Whatever else is omitted, do not forget to tuck a drinking-eup into the hand-satchel, also a flask of distilled water, for the dangers which are to be encountered in a common drinking-cup or glass, and the water in cars and stations are often more serious than many believe.

Rose Lore.

Now since it knows
My heart so well,
Would that this rose
Might speak and tell!

You could not scorn
Its winsome grace,
The blush of morn
Upon its face.

Unto your own
You needs must press
The sweet mouth prone
To tenderness;

Then, lip to lip,
With rapture stirred,
You might let slip
The secret word,

With fragrant kiss
Interpreting
The dream of bliss
The rose would bring.

Then to your breast
Take it to be
Your own heart's best
Love-augury—
A welcome guest—
To gladden me.

—The Century.

How Lady Was Taught.

Lady was a fine saddle horse, and I often rode her out into the country. She liked the fun of a scamper along the green lanes as well as I did, but she did not like the city sights and sounds that met her nearer home. But I had made up my mind that Lady must learn not to fear them. So, first of all, I won her love and trust by being always gentle and kind to her. I never shouted at her or struck her. I knew that that would only frighten her more than ever. After that, whenever we came to anything that worried her and made her dance, I first soothed her by voice and toueh; then I faeed her toward the object she feared. When she had had a good look at it, I made her go a little closer to it, and then stop and take another look. Then, patting and talking to her all the time, I urged her still closer until she touched it and saw for herself that it would neither jump at nor bite her. In this way I taught her to pass quietly by piles of brick, stone, mortar, boxes, lime-kilns and all the other queer things that she had never met before.

Well, when she had learned that there was no harm in those queer-looking things that met her on the streets, I was ready to teach her the hardest lesson of all. This was, not to fear those awful trains of whistling, roaring cars, with the great, black, smoke-breathing iron horse at their head.

So one day Lady and I rode out to a plaee where there was a wide street with a railroad traek on one side of it. I knew we must have plenty of room to jump and waltz around in.

We waited there till a train eame along, and then Lady thought it was high time to go home. I did not, and I told her so. Poor Lady, she was in a dreadful fright. She baeked and danced, and stood on her hind legs. When she eame down on all four legs again, she danced and waltzed all over the street to the music of the big iron horse. It was dreadful enough just to look at. It was worse when it began to blow off steam. It was still worse when it gave two wild shrieks, and then went puffing off down the street.

I felt sorry for Lady, she was so frightened. But all the time I spoke softly to her and stroked her neck, and kept her facing that awful loeomotive until it had puffed out of sight.

Day after day Lady and I rode out to see those locomotives. Day after day we went closer to them. We paid them many visits before Lady felt quite sure that the moving, hissing giant that breathed smoke and steam, and shrieked and roared, meant her no harm.

But she learned the lesson at last. She learned it so well that she felt only scorn and eontempt for her one-time terror. Then I had to hold her back from erossing the track when a train was coming. Sometimes when it had stopped aeross the road she would have tried to climb over it, if I had let her.

It was funny to see how she despised her old foe.

Lady soon learned the meaning of the word "back." In a short time it was only needful to give the word and she obeyed at once without any pulling on the reins. If I wished her to back when I was standing on the ground at her side, she had only to be touched on the breast, and back she went until told to stop. Some persons pull so hard on the bit when they wish their horses to back that the poor horses open their mouths in pain. This is cruel and not needful at all.

Lady soon came to think that she belonged to her teacher, or that her teacher belonged to her. She seemed a little doubtful as to which way it was; but, at all events, she made up her mind that she did not wish to obey any one else.

We took a ride nearly every day, Lady and I, and every ride was a lesson. They were learned, too, chiefly in a beautiful park that was often crowded with carriages and persons on horseback. Yet it was not long before the reins could be dropped on her neck, in the certainty that by voice alone she could be guided in and out among them all

"Lady," a quiet voice would say. Then her ears pricked up, and she listened for the order she knew was coming. "Left," and at once she turned off to the left. "Right," and away she went to the right. If the word was repeated she kept on turning until she faced around the other way.

If she heard the order "Trot," "Canter," "Walk," she obeyed on the instant. It was funny to see how quickly she dropped from a quick canter into a walk, even at a whispered order. Sometimes, when trotting or cantering a low-spoken, "Faster, faster," sent her tearing along as if there were a big race to run and she had set out to win it.

Nor was this all that Lady was taught. Even the voice was not needed to guide her. She soon learned to obey a set of whip signals as well as the orders by voice. A light touch on the flank started her into a trot. A touch on the right shoulder meant to canter. Between the ears meant to come down to a walk.

Pressing the whip against the right side of her neck was the signal to turn to the left. Pressing the whip on the left meant to turn to the right. If the whip kept on pressing against her neck Lady turned and turned until she had completed a circle. Rubbing the whip on her back behind the saddle was the order to go faster. All these orders by voice and touch Lady obeyed whether in harness or under the saddle. —Helen Harcourt in August St. Nicholas.

Stranger — Fine Sunday, ain't it? Any good fishin' around here?

Native—See all them men goin' to church?

Stranger—What's that got to do with it?

Native—Would they be goin' if there wuz any good fishin'?

Bache—Your wife seems to be a woman of rare intelligence. I am sure her mind is on something higher than fine dresses.

Benne—It is. She is at present planning how to get me to buy her a $54 fall hat.

"What's that racket down there?" shouted the old gentleman from the top of the stairs. "I think," promptly replied his up-to-date daughter, "that it was Bob dropping his voice when he proposed to me."

She—Do you suppose, Mr. Pickering, that you could teach me to swim?

He—Certainly. But I'll have to put my arms around you.

She—But what's the use getting all wet for that?

"Cheer up, old man," said the nurse, "it's triplets."

"That's odd," groaned the happy father.

Turkish Rugs Are Scarce.

"There is really no such a thing as a Turkish rug, despite the name," said a large importer of Oriental wares. "They are called Turkish because they are marked principally from Constantinople, although almost every one is woven in realms outside those of the Sultan. They come from Arabia, Persia, Afghanistan and Beloochistan, and are picked up by Mohammedan traders, who get them from the natives for sacred images and pictures of images. Of course, the Mohammedan faithful think that these are made by their own countrymen, but as a matter of fact they are manufactured largely in England and France, and are shipped to the Orient from there. It would be certain death for an infidel Christian to engage in such a trade, and even the Mohammedan trader frequently pays for it with his life.

"After they have been bought from the natives by these traders they are packed on camels, and then begins the journey overland to Constantinople. They have to travel in caravans for safety's sake, and I have often seen as many as 180 camels in one caravan when they arrived in Constantinople. Each camel can carry about 200 pounds of rugs, and it often takes a caravan six months to reach Constantinople, so the expense of transportation is a heavy one. Then they are shipped from Constantinople to America, and it takes about twenty days to reach New York.

"They have to pay import duty to the Sultan when they cross the frontier, and then when they are exported they have to pay another 2%. If we want to inspect them before we ship them out of the country we have to pay 20%, so we ship them just as they come off the camels' backs—in bales. Sometimes when they arrive in this country we find in a shipment a rug whose sacred emblems make it more valuable in Constantinople than in America, for the rich Mohammedans in that city are willing to pay almost any price for a prayer rug that has certain of these sacred emblems in its design. When we find such a rug we ship it back to Turkev and sell it there, and make a bigger profit than we would in America."—Chicago Inter-Ocean.

How to Live One Hundred Years.

Be clean.

Be good-natured and companionable. Do not worry.

Be more careful to take exercise as you grow older.

Be comfortable. Keep your feet warm and wear comfortable clothing.

Sleep in a comfortable bed in a room that is ventilated and in which sunshine is not a stranger.

Do not eat twice as much as you need, and eat only the food that agrees with you.—Dr. John B. Rich of New York (ninety-four years old) in Chat.

Tomato Catsup.

To the Editor:—With the ripening of tomatoes comes the memory of "mother's tomato catsup." It would keep in corked bottles without being sealed and was most excellent. The recipe has been lost. If, through the medium of your valuable paper, you will furnish me with a similar one, you will greatly oblige.—Anxious Inquirer.

Who will send us for publication such a recipe?

We have the skunk all to ourselves in North America. He lives in Canada as far north as the upper part of the Mackenzie river, and is distinctly a North American animal. It is found throughout our broad domain from Portland, Me., to Oregon, and from Florida to Los Angeles. For some reason he seems to have a prejudice against Nova Scotia and is not known in Newfoundland. The skunk is really a very respectable beast and cannot be severely blamed for making himself obnoxious to his enemies. Some bold experimenters assert that the skunk is very good eating.

THE BEST EVERYWHERE!



"GOLDEN GATE"
Pure Leaf Lard.

Western Meat Company,
SAN FRANCISCO.

Domestic Hints.

Baked Tomatoes.—Mince very fine a slice or two of bacon with any kind of cold cooked meat. Season well with salt, pepper, add a little minced parsley, and a bit of stock to moisten it. Scoop all the seeds out of the tomato, put in the mixture, cover with a few bread crumbs, with a bit of butter over these, and cook until the tomatoes seem tender, but without letting the skins break.

Salmi of Ducklings. — Cleanse well two ducklings, sprinkle with salt and pepper and put in a roasting pan, pouring two tablespoonfuls of melted butter over them. Baste often, using more melted butter as required until the ducklings are cooked. Take from the oven, cut off the legs, wings and breasts in good pieces. Scrape the rest of the meat from the carcasses, chop with a teaspoonful of chopped onion already fried a bit in butter and heat all in a little melted butter, a cupful of stock and a gill of Madeira. Add salt and pepper to taste, thicken with a little browned flour and pour over the roasted duckling pieces. Set in the oven to heat a bit and serve.

Prune Souffle.—Soak and stew two dozen prunes, and, when tender, press through a colander. To the beaten whites of four eggs add six tablespoonfuls of powdered sugar and the prunes and beat well. Put into the mixture one tablespoonful of sifted flour, a quarter of a teaspoonful of cream of tartar and one teaspoonful of lemon extract. Bake twenty minutes in a slow oven. Serve cold with sauce made as follows: One pint of sweet milk, three-quarters of a cup of sugar, the yolks of four eggs and one teaspoonful of lemon made into a soft custard. The sauce should also be cold when served.

Mock Chicken Croquettes. — Two cups of rye bread—home-made is the best—chopped fine, one cup of chopped English walnuts. Mix together and chop again with a tablespoonful of butter, an even tabelspoonful of grated onion, a scant teaspoonful of ground mace. Melt a heaping tablespoonful of butter in a saucepan with half a tablespoonful of flour and add gradually to it a cupful of rich milk; when this comes to a boil add the other ingredients, salt and pepper to taste, then stir in two well-beaten eggs, remove from the fire and add a tablespoonful of lemon juice; turn out on a platter to cool, form into cylinders, dip in egg and breadcrumbs, as usual, and fry in boiling fat.

Angel Cake. — The whites of nine large, fresh eggs. When they are partly beaten add one-half teaspoonful of cream of tartar and then finish beating—the cream of tartar makes them lighter; then add one and a quarter cup of granulated sugar; stir the sugar very lightly into the whites of the eggs and add a teaspoonful of vanilla Have flour sifted five times, measure a cupful and fold it in very carefully—not with a circular motion—and do not stir long. Turn it into a Turk's head mold and bake forty-five minutes. Do not grease the mold, and when taken out of the oven invert it until the cake is cold before removing from the pan. Never use a patent egg beater for this cake, but a whip, taking long, rapid strokes, and make it in a large platter, not a bowl.

Marble Cake.—Cream half a cupful of butter with one cupful of sugar and then add yolks of two eggs. In another bowl sift two cupfuls of the best pastry flour with two teaspoonfuls of baking powder or one of soda and two of cream tartar. Repeat the sifting three times, gradually mixing the flour with the eggs, butter and sugar, and adding also half a cupful of sweet milk. After a smooth batter has been formed fold in the whites of the two eggs, stiffly whipped. Melt four large spoonfuls of grated chocolate, and mix with a very little of the batter. Butter a loaf tin, and just before putting in the cake fold the chocolate batter into the other in streaks. Bake in a moderate oven for about three-quarters of an hour. Take it out when it has separated from the sides of the pan and turn it upside down to cool. This recipe can be made into a plain chocolate cake if desired by mixing the melted chocolate at the beginning with the batter as the flour is added. Ice with any soft icing. A nice icing for this cake is either a black chocolate icing or a gelatine frosting. The latter is made as follows: Melt a teaspoonful of gelatine in two of cold water, and in about an hour add a tablespoonful of boiling water. Mix it when the gelatine has dissolved enough, with a large cupful of sifted, powdered sugar and flavor with vanilla.

Hints to Housekeepers.

Let sunshine into the home. It brings health and vigor, radiance and good cheer. It purifies, wards off moisture, mildew, gloom and disease. Its effect is physical, mental and moral.

Lettuce and green peas cooked together make a dainty summer dish. Few people know that lettuce is as good when cooked as spinach. Boiled with young peas and flavor is delicious. Also it is very wholesome.

To tell a good watermelon, lay the melon on its back, the white part up, and scratch the skin in the lightest part with the finger nails. If the skin is tender, and the melon is yet firm to the pressure of the finger, the melon will be a good, sound, ripe one.

Any one who is in the habit of making snow pudding will find preserved pineapple a great addition to it. When the snow is ready, pour it into the mould until you have a good foundation, add your pineapple, and then the rest of the snow. When it is cold, serve, as usual, with soft custard.

When "hanging space" is insufficient in the closet as usually arranged, a hint may be taken from the show-frames in the stores. By placing a wooden or iron bar across from end to end, and using coat hangers, double if not triple the quantity of suits or gowns can be accommodated without crushing or tumbling.

The Markets.

San Francisco Produce Report.

San Francisco, August 31, 1904.

CHICAGO WHEAT FUTURES.

Wheat futures in Chicago were as follows for the week named, price being for No. 2 Red per bushel:

	Sept.	Dec.
Wednesday	$1 08¼@1 08¼	$1 09⅛@1 04⅝
Thursday	1 03½@1 04	1 04⅜@1 05⅜
Friday	1 02½@1 05⅞	1 04 @1 07¼
Saturday	1 04⅞@1 06⅜	1 06¼@1 07¾
Monday	1 06⅜@1 07⅞	1 06⅜@1 09½
Tuesday	1 08¾@1 05½	1 10 @1 07¾

CHICAGO CORN FUTURES.

Prices of futures on No. 2 corn per bushel in Chicago were as follows for the week:

	Sept.	Dec.
Wednesday	55⅜@53⅜	54⅝@52⅞
Thursday	53⅜@53	52½@51⅞
Friday	53 @53⅜	51¾@51¾
Saturday	53 @52	51⅜@50⅞
Monday	52¼@52⅛	51⅛@51⅜
Tuesday	53⅛@52½	52¼@51¼

SAN FRANCISCO WHEAT FUTURES.

The range of values in San Francisco for No. 1 White wheat per cental was as follows:

	Dec., 1904.	May, 1905.
Thursday	$1 50 @1 49	$ ——@——
Friday	1 50 @1 50¼	——@——
Saturday	1 49½@1 50¼	——@——
Monday	1 51 @1 52½	——@——
Tuesday	1 52¼@1 50¾	——@——
Wednesday	1 51½@1 50	——@——

Wheat.

In the local market for spot wheat the same inactivity has been experienced since last review as for weeks preceding. Only 435 tons wheat was exported from this center during entire month of August, and total shipments from here since July 1st aggregate less than 1,100 tons. Exporters protest against the prices asked for ships as also the prices asked for wheat, and being unable to dictate terms are doing nothing. Purchasing on milling account is not of extensive proportions. In fact, much of the business in the sample market lately has been in wheat going for chicken feed, which brings about the same figures wholesale as asked for No. 1 shipping. The Eastern speculative markets recovered part of the loss experienced in option values on Wednesday last, and why there should have been such a decline remains unexplained, except that it was to the interest of heavy operators and manipulators to have it so. Outsiders had probably been buying freely at high prices, and the easiest way to rid them of their holdings is to cause a big slump in prices. The option business is done on margins and many people dip in with little money, so they are compelled to let go when there is a big break. Late estimates make the crop in the United States and Canada 100,000,000 bushels less than would have been harvested had there been no rust or frost. The crop in the State of Washington is proving much lighter than early estimates, Whitman county alone showing a reduction of 3,000,000 to 5,000,000 bushels from expectations before crop was matured.

California Milling	$1 50 @1 60
Cal. No. 1 shipping, alongside	1 42½@1 45
Oregon Club	1 40 @1 45

PRICES OF FUTURES.

During past week the range on options was:
December, 1904, delivery, $1.49¼@1.52¼.
May, 1905, delivery, $1.53@——.

Wednesday, at the forenoon session of Exchange, December, 1904, wheat sold at $1.51½@1 50; May, 1905, $——@——.

Ocean freights and prices for wheat, as compared with a year ago, are as follows:

	1903-04.	1904-05
Liv. quotations	-s-d @-s-d	-s-d@-s-d
Freight rates	15¼@16¼s	22½@—s
Local market	$1 42½@1 45	$1 42½@1 47½

Flour.

The most encouraging feature of the flour trade is the resumption of shipments on a large scale to the Orient. A heavy quantity went forward by a steamer clearing yesterday in the China line. There is a moderate movement to Central and South America. Business on local account is not particularly active. Current values for desirable qualities are being tolerably well maintained.

Superfine, lower grades	$3 25 @3 50
Superfine, good to choice	3 50 @3 75
Country grades, extras	4 25 @4 50
Choice and extra choice	4 50 @5 00
Fancy brands, jobbing	5 00 @5 25
Oregon, Bakers' extra	3 75 @4 25
Washington, Bakers' extra	3 75 @4 40

Barley.

The market in this center is not showing much activity, most of the purchasing being done in the interior. Shipments outward thus far the current season have been decidedly light, as compared with last year, footing up for the past two months only about 8000 tons, as against 33,600 tons for corresponding time in 1903. Values remain about the same as last quoted, with market firm for choice to select qualities. Several ships now engaged to carry miscellaneous cargoes for England will probably take some barley. Stocks of high-grade barley are not large, and with anything like a fair average foreign demand, prices for best qualities would be more apt to harden than to weaken.

Feed, No. 1 to choice	$1 07½@1 10
Feed, fair to good	1 03¾@1 06¼
Brewing, No. 1 to choice	1 12½@1 20
Chevalier, No. 1 to choice	1 20 @1 30
Chevalier, common to fair	1 00 @1 10

Oats.

There are fairly liberal receipts, mainly of Reds and Blacks suitable only for seed. Values for feed oats are ruling steady, with demand about sufficient to absorb at current values all immediate offerings showing fair to good average condition. For choice seed oats the market is decidedly stiff, offerings being light.

White oats, fancy feed, old	$1 35 @1 40
White, good to choice	1 30 @1 35
White, poor to fair	1 20 @1 27½
Milling	1 30 @1 35
Black oats	1 20 @1 60
Red, fair to choice	1 20 @1 45

Corn.

Recent arrivals have been of light volume and almost wholly Eastern product, representing prior arrival purchases by millers and dealers. Market is steady at the values quoted, and although demand is not active at full figures, there is nothing to warrant anticipating materially lower figures in the near future.

Large White, good to choice	$1 47½@1 55
Large Yellow	1 47½@1 55
Small Yellow	1 60 @1 65
Egyptian White	1 35 @1 40
Egyptian Brown	1 25 @1 30
Eastern, in bulk	1 37½@1 45

Rye.

Spot stocks are of very moderate proportions and are being quite steadily held.

Good to choice	$1 30 @1 35

Buckwheat.

Market bare of supplies of this cereal. Choice would readily command $2.25, possibly more in a limited way.

Beans.

With the new crop near at hand, there is a disposition on the part of some operators who are short of stocks to bear the market, but thus far they have not met with any pronounced success in this direction. There is no particular selling pressure observable on beans of any variety. It is doubtful if free purchases could be effected at this date without paying an advance on quotations.

Pea, fair to good, 100 lbs	$2 90 @3 15
Small White, good to choice	2 90 @3 15
Large White	2 40 @2 60
Pinks	3 40 @3 60
Bayos, good to choice	2 30 @2 50
Red Kidneys	4 50 @5 00
Reds	4 25 @4 75
Limas, good to choice	3 75 @3 85
Black-eye Beans	2 40 @2 50

Dried Peas.

Not many Green Peas on market and no Niles. Good to choice Garbanzos are being sought after and are hard to find in noteworthy quantity.

Green Peas, California	2 00 @2 50
Garbanzos, Large	3 25 @3 50
Garbanzos, Small	3 00 @3 25

Hops.

Picking and curing is progressing in this State. Considerable damage is reported in some sections from last week's wind and rainstorm. Dealers are said to be bidding 25@26c for choice new California, and in some intsances a little more for select qualities. The New York Producers' Price Current of recent date says: "The market has developed a considerable increase of strength on part of dealers. The reports of the growing crop in Germany have grown considerably worse, owing to the continucd unprecedented drouth prevailing in that country, and the estimates of the German crop have been lowered considerably. Reports from England, also, are not very encouraging; growers there are not making much headway against vermin and mold, and instead of yielding 400,000 cwts., the late estimate, it now looks as if 380,000 cwts. would be nearer the figure. Belgium and Austria, however, report their crop in good condition, though Austria is complaining of a lack of rain. Reports from New York State continue exceedingly good. A speculator who has been holding a large lot of old olds for some years has closed out his holdings."

California, good to choice, 1903 crop	25 @27½

Wool.

Market continues to show decidedly healthy condition. Wools in the way of offerings from first hands are given little chance to accumulate here, being mostly bought up in the interior before shipment, if not before being sheared, and this is likely to continue to be the case throughout the season. Some buyers have secured decided bargains, taking advantage of growers who were not posted on the actual condition of the market. Yuba wool growers have named Sept. 24th and Oct. 22d as dates for selling the Fall wool pooled in that section.

SPRING.

Northern, free	22 @—
Northern, defective	17 @20
Oregon, good to choice	20 @22
Nevada	15 @20

FALL.

Foothill	14 @17
San Joaquin and Southern, free	12 @14
San Joaquin and Southern, defective	8 @10
Southern lambs, as to quality	8 @14

Hay and Straw.

The hay market continues to be conjested with offerings of most descriptions, especially with common to medium grades of stable. Fancy wheat is not plentiful and sells fairly well, being in tolerably good request, but for this description $13.50 is an extreme quotable figure. Straw is in better supply than for some time past and market for same is in consequence inclining more in favor of the buying interest.

Wheat, good to choice	$12 00 @ 13 50
Wheat and Oat	8 50 @ 11 00
Tame Oat, fair to choice	7 50 @ 11 50
Wild Oat	7 00 @ 9 00
Barley	7 00 @ 9 00
Alfalfa	9 00 @ 11 00
Compressed	10 00 @ 13 50
Straw, ₱ bale	40 @ 60

Millstuffs.

Stocks of Bran are more than ample for immediate demand, but are mostly in few hands. Middlings are in rather liberal supply and market weak at prevailing rates. There have been no quotable changes in values for Rolled Barley or Milled Corn since last report.

Bran, ₱ ton	$20 00 @ 21 00
Middlings	24 00 @ 27 00
Shorts, Oregon	21 00 @ 22 00
Barley, Rolled	22 50 @ 23 50
Cornmeal	31 50 @ 32 00
Cracked Corn	32 00 @ 33 00
Oilcake Meal	31 50 @ 33 00

Seeds.

Market for the several kinds quoted herewith is quiet, but in the main firm. There are no large spot supplies of any variety below named. Market is practically bare of Trieste Mustard and Flaxseed.

Alfalfa, Cal., good to choice	$14 00 @16 00
Flax	1 80 @ 2 35
Mustard, Yellow	3 15 @ 3 25
Mustard, Trieste	3 25 @ 4 50
	Per lb.
Canary	7 @—
Rape	1¾@ 2½
Hemp	3½@—
Timothy	5 @ 5½

Honey.

More inquiry is reported and market is showing an improved tone. Only for light colored honey of fine quality, however, can the market be said to show any special firmness.

Extracted, White Liquid	6 @ 6½
Extracted, Light Amber	5 @ 6
Extracted, Amber	4 @ 4½
Extracted, Dark Amber	3½@ 3¾
White Comb, 1-frames	12½@13
Amber Comb	9 @11

Beeswax.

Market is lightly stocked and is firm at current rates. There is a good demand, mainly for shipment to Europe.

Good to choice, light ₱ lb	29 @30
Dark	27 @28

Live Stock and Meats.

Beef of No. 1 to choice quality is in fair request and market moderately firm at the figures quoted. Veal in prime condition is not in heavy supply and is readily placed. Mutton is offering quite freely and market is easy at the last quoted decline. Lamb is in ample receipt for the immediate demand. Receipts of Hogs are tolerably heavy, but for desirable packing stock there is good inquiry at values quoted. For Soft Hogs there is practically no demand.

Allowing for the shrinkage of about 50%, which is exacted in buying cattle on the hoof, live cattle command as much or more per pound than dressed beef, the shrinkage exacted being the slaughterers' profit.

The following quotations for beef and mutton are based on prices realized by slaughterers from wholesale dealers:

Beef, 1st quality, dressed, net ₱ lb	5½@ 6½
Beef, 2nd quality	4½@ 5½
Beef, 3rd quality	4 @ 5
Mutton—ewes, 6@6½c; wethers	6½@ 7
Hogs, hard grain, 140 to 200 lbs	4¾@—
Hogs, large, hard, over 200 pounds	4¾@ 4¾
Hogs, small, fat	4¼@ 4¼
Veal, large, ₱ lb	6 @ 7
Veal, small, ₱ lb	8 @ 9
Lamb, spring, ₱ lb	8 @ 8½

Hides, Skins and Tallow.

Hides in first-class condition are in request and market is firm at the quotations. Pelts are in tolerably free receipt, value for same ruling fairly steady. Market for Tallow is quiet at unchanged figures.

Nothing but select hides, clean and trimmed will bring full figures. Culls of all kinds, either from grubs, cuts, hair slips, side brands or murrain, are not always readily placed at the lower figures.

	Sound.	Culls.
Heavy Steers, over 56 lbs	— @10	— @ 9
Medium Steers, 48 to 56 lbs	— @ 9	— @ 8
Light Steers, under 48 lbs	— @ 8½	— @ 8
Heavy Cow Hides, over 50 lbs	— @ 8½	— @ 8
Light Cow Hides, under 50 lbs	— @ 8½	— @ 8
Stags	— @ 6	— @ 5
Wet Salted Kip	— @ 9½	— @ 8½
Wet Salted Veal	— @10	— @ 9
Wet Salted Calf	— @11	— @10
Dry Hides	— @16	— @15
Dry Kip and Veal, 11 to 16 lbs	— @13	— @12
Dry Calf, under 4 lbs	— @18	— @16
Pelts, long wool, ₱ skin	1 00@1 50	
Pelts, medium, ₱ skin	70@ 90	
Pelts, short wool, ₱ skin	40@ 65	
Pelts, shearling, ₱ skin	15@ 30	
Horse Hides, salted, large prime, each	2 75@—	
Horse Hides, salted, medium	2 50@—	
Horse Hides, salted, small	2 00@—	
Horse Hides, dry, large	1 75@—	
Horse Hides, dry, medium	1 50@—	
Horse Hides, dry, small	1 00@—	
Tallow, good quality	4 @4½	
Tallow, poorer grades	2½@3½	

Bags and Bagging.

Market throughout is quiet. Quotations are based on asking figures and show no special changes. The State Prison Directors are advertising their Grain Bags for sale in Oregon and Washington.

Bean Bags	4¾@5
Fruit Sacks, cotton	6¾@6¾
Fruit Sacks, jute, as to quality	5¾@7
Grain Bags, Calcutta, 22x36, spot	5⅛@5⅜
Grain Bags, San Quentin, ₱ 100	4 75 @—
Wool Sacks, 4-lb	32 @—
Wool Sacks, 3½-lb	30 @—

Poultry.

There was a more active demand for poultry, mainly for chickens of good size and in prime to choice condition, such stock meeting, as a rule, with prompt sale at better average prices than had been ruling. Fowls in poor flesh were not sought after. Inquiry for Turkeys was not brisk and was mainly for choice Young. There were no heavy receipts of Ducks or Geese, and such as were large and fat were salable to fair advantage. Pigeons sold at quotably unchanged values, with demand only moderate.

Turkeys, Young, ₱ lb	22 @ 24
Turkeys, live gobblers, ₱ lb	14 @ 15
Turkeys, live hens ₱ lb	16 @ 18
Hens, California, ₱ dozen	4 00 @ 4 50
Hens, large	5 00 @ 6 00
Roosters, old	4 00 @ 4 50
Roosters, young (full-grown)	5 00 @ 6 00
Fryers	4 00 @ 4 50
Broilers, large	3 00 @ 3 50
Broilers, small to medium	2 50 @ 3 00
Ducks, old, ₱ dozen	4 00 @ 4 50
Ducks, large young, ₱ dozen	4 50 @ 5 50
Geese, ₱ pair	1 75 @ 2 00
Goslings, ₱ pair	1 75 @ 2 25
Pigeons, old, ₱ dozen	1 25 @ ——
Pigeons, young	1 50 @ 1 75

Butter.

Choice to select fresh is not in heavy supply and values for same have been tending slightly upward. Many brands which were fine in the midst of the fresh butter season are now showing defects. Common qualities of fresh are dragging at low prices, buyers taking held stock in preference.

Creamery, extras, ₱ lb	26 @—
Creamery, firsts	24 @25
Creamery, seconds	22 @23
Dairy, select	23 @24
Dairy, firsts	22 @23
Dairy, seconds	19 @21
Mixed Store	14 @—

Cheese.

Market is well stocked with flats, especially with others than choice to fancy mild-flavored new, and for the general run of offerings is lacking in firmness. Young Americas are not plentiful and choice are bringing good figures.

California, fancy flat, new	9½@10
California, good to choice	9 @ 9½
California, fair to good	8½@ 9
California, "Young Americas"	10 @11½
Eastern	10 @13

Eggs.

Select fresh are in light receipt and are bringing tolerably stiff prices, as high as 36c being asked, this figure including cost of city delivery. The trade is now running largely on cold storage and Eastern eggs. Some choice Eastern are going to retailers at 26@28c per dozen.

California, select, large, white and fresh	33 @35
California, select, irregular color & size	28 @32
California, good to choice store	22 @26
Eastern firsts	23 @25
Eastern seconds	20 @22

Vegetables.

Market was liberally stocked with most varieties of vegetables now in season, especially with common qualities. The general drift of prices was in favor of the buying interest, although in quotable values there were no pronounced changes. Some vegetables of superior quality commanded an advance on utmost figures warranted as regular quotations. Onions were in fairly liberal supply, with demand not very active, and prices were slightly lower than previous week.

Beans, Lima, ₱ lb	2 @ 3
Beans, String, ₱ lb	1½@ 3
Cabbage, choice garden, ₱ 100 lbs	75 @ 1 00
Corn, Green, ₱ crate	75 @ 1 25
Cucumbers, ₱ box	20 @ 50
Egg Plant, ₱ box	30 @ 50
Garlic, new, ₱ lb	3½@ 4½
Okra, Green, ₱ box	30 @ 60
Onions, Yellow Danver, ₱ ctl	1 00 @ 1 25
Peas, sweet garden, ₱ lb	2½@ 3½
Peppers, Green, ₱ box	30 @ 60
Summer Squash, ₱ box	25 @ 50
Tomatoes, box	20 @ 60

NOTE.—Large boxes are what are known to the trade as "pay boxes," which have to be returned or paid for. They are open top, with hand holes in the ends, and weigh when filled from 50@60 lbs gross. Small boxes are free boxes, about the same as the regular fruit box, weighing when full from 20 to 30 lbs. gross.

Potatoes.

Supplies of potatoes were in excess of the demand most of the week under review, and market lacked firmness, particularly for other than most select qualities sought after by special local

trade. Sweets were in increased receipt and lower.

Salinas Burbanks, ₱ cental	1 00	@	1 35
Potatoes, white, ₱ cental	65	@	90
Early Rose, ₱ cental	75	@	90
Garnet Chile	75	@	90
Sweet Potatoes, ₱ lb	1½	@	1¾

Fresh Fruits.

The market has not been very heavily burdened tbe current week with choice to select tree fruit of any description. The demand for shipment and for immediate local use was fairly active for desirable stock, with market for choice to select rather favorable to the selling interest. Canners were eager to secure good to fancy Clingstone Peacbes, this fruit being quotable in bulk at $40@60 per ton, and not many obtainable at any price. For Freestone Peaches in bulk $35 per ton was the top price, choice Salways commanding this figure from a few buyers, but majority of canners named only $25@30 for good to cboice Freestones. Canners quoted $25@30 per ton for desirable Bartlett Pears. Choice were in reduced supply. Plums were not readily placed wholesale over $15 per ton, and common ranged down to $7. Choice Apples were in light receipt and met with a firm market; trashy stock dragged. Grapes were in good supply and market favored the consumer. Melons were plentiful. Berries were in light receipt.

Apples, Gravenstein, ₱ 50-box	1 10	@	1 50
Apples, good to choice, 50-lb. bx	1 00	@	1 25
Apples, fair to good, ₱ box	65	@	1 00
Blackberries, ₱ chest	2 00	@	3 50
Cantaloupes, ₱ crate	50	@	1 25
Crabapples, ₱ large box	75	@	1 25
Figs, Black, 2 layers	50	@	1 00
Figs, Black, ₱ drawer	30	@	50
Figs, White, ₱ small box	35	@	60
Grapes, Black, ₱ crate	30	@	65
Grapes, Muscat, ₱ crate	50	@	75
Grapes, Seedless, ₱ crate	50	@	65
Grapes, Tokay, ₱ crate	50	@	75
Grapes, Royal Isabella, ₱ crate	90	@	1 00
Grapes, large open boxes	60	@	1 25
Huckleberries, ₱ lb	7	@	9
Nutmeg Melons, ₱ box	35	@	50
Peaches, freestone, ₱ pay box	65	@	1 25
Peaches, freestone, ₱ free box	35	@	75
Peaches, Clingstone, ₱ free box	75	@	1 25
Pears, No. 1 Bartlett, ₱ 40-lb box	75	@	1 15
Pears, Bartlett, No. 2, ₱ box	40	@	65
Pears, Bartlett, No. 1, ₱ ton	25 00	@	30 00
Pears, Seckel, ₱ box	40	@	75
Pears, Winter Nelis, ₱ box	75	@	1 25
Plums, Large, ₱ box	40	@	75
Plums, fancy varieties, ₱ 20-lb bx	75	@	1 25
Plums, in bulk, ₱ ton	8 00	@	15 00
Prunes, ₱ box	30	@	65
Quinces, ₱ box	40	@	70
Raspberries, ₱ chest	5 00	@	8 00
Strawberries, large, ₱ chest	2 50	@	5 00
Watermelons, ₱ doz	1 00	@	3 00

Dried Fruits.

Conditions of the dried fruit market remain much the same as at date of last review. For most kinds there is a generally good demand, desirable qualities commanding in tbe main fully as firm figures as at any previous date the current season. There are few Apricots of high-grade offering, and such are readily placed at full current values. Not many evaporated Apples now on market, and early deliveries of good to choice are commanding tolerably stiff prices. Peacbes have been in fairly active request, and high-grade stock has been salable to advantage, especially of the Muir variety, this peach in the dried state being most in favor with the majority of buyers. Pears of choice to fancy quality are being offered sparingly and are commanding stiff prices, with every prospect of ruling in favor of sellers throughout tbe season. Figs are in good supply and market not especially noteworthy for firmness. Plums are not offering in great quantity, and for fancy pitted there is a good demand, with little probability of tbe market being overstocked with this sort. The Prune market is in bad shape. Seemingly the lower the price the slower they go. When they brougbt 5c. per lb. they moved more readily than they do now on the 1½c. basis. There are too many Prunes. The situation might be improved by feeding the surplus to hogs. The steamer City of Puebla, sailing Sunday for Victoria, carried 45,200 pounds dried fruit, including 5000 pounds Prunes.

EVAPORATED OR BLEACHED.

Apples, 50-lb boxes, rings, pressed, good to choice	5¾	@	6¼
Apples, extra cboice to fancy, 50-lb boxes	6½	@	7
Aprloots, Moorpark	8	@	11
Apricots, Royal, good to cboice, ₱ lb	7½	@	8½
Apricots, Royal, fancy	9½	@	10½
Figs, 10-lb box, 1-lb cartons	50	@	65
Nectarines, Red, ₱ lb	5	@	—
Nectarines, White and Yellow	5½	@	6
Peaobes, unpeeled, good to cboice	5¾	@	6½
Peacbes, unpeeled, fancy to extra fancy	7¼	@	8½
Pears, standard, ₱ lb	5½	@	6
Pears, cboice to fancy	7	@	10
Pears, extra fancy	10	@	11
Plums, Black, pitted	5½	@	6½
Plums, Red, pitted	6½	@	8
Plums, Yellow, pitted	6¼	@	7½
Prunes, Silver, good to fancy	4	@	7

Prunes, in bags, 4 sizes, 1⅝@1¾c; 40-50s, 3½@3⅝c; 50-60s, 2⅞@3c; 60-70s, 2⅜@2½c; 70-80s, 1⅞@2c; 80-90s, 1⅜@1½c; 90-100s, ⅞@1c; small, ⅜@½c

COMMON SUN-DRIED.

Apples, sliced	3½	@	4¼
Apples, quartered	3¼	@	4¼
Figs, White, in bulk	2½	@	3¼
Figs, Black	2½	@	4

Raisins.

The combine of packers has the 1200 carloads which the Association was carrying. With the new season near at hand, and 1200 carloads of last year's Raisins to be distributed in consuming channels, the outlook is not encouraging for a very satisfactory market for ordinary grades of Muscatels of the crop now maturing. Market for Sultanas and Thompsons is moderately firm at current values, owing to light crop of foreign Sultanas and stiffer prices asked for same.

The following quotations are based on prices at packing points for carload lots of 1904 crop, October delivery:

Standard Grades—	50-lb. cases, Per lb.
2-Crown Loose Muscatels	2⅞c
3-Crown Loose Muscatels	3⅜c
4-Crown Loose Muscatels	4 c
Seedless Loose Muscatels	2½c
Seedless Sultanas, Unbleached	3¼c
Seedless Thompson's, Unbleached	4½c
Woodland Sultanas, bleacbed	3½@5 c
Woodland Tbompson's, bleacbed	4½@8 c

SEEDED.

Fancy 16-oz. Cartons, ₱ lb	5¼c
Fancy 12-oz. Cartons, ₱ pkg	4¼c
Fancy Bulk Cartons, ₱ lb	5 c
Cboice, 16-oz. Cartons, ₱ lb	4¾c
Cboice, 12-oz. Cartons, ₱ pkg	3¾c
Cboice, Bulk Cartons, ₱ lb	4½c

Citrus Fruits.

There are moderate stocks of Valencia Oranges on market, which are proving ample for the immediate limited demand. Lemons are in fairly liberal supply and are selling at quotably unchanged values, with movement not very brisk. Lime market is steady for prime; most of the present stock requires overhauling.

Oranges, Valencias, ₱ box	1 50	@	2 75
Lemons, California, select, ₱ box	2 50	@	—
Lemons, California, good to choice	1 75	@	2 25
Lemons, California, fair to good	1 25	@	1 75
Grape Fruit, ₱ box	2 00	@	3 00
Limes, Mexican, ₱ box	4 50	@	5 00

Nuts.

Nearly all the Almonds of the State are now in the control of dealers and are being firmly held. Extreme quotations are based on prices demanded by jobbers for carload lots. Prices for new crop Walnuts will be fixed about the middle of the month. Peanut market is firm at current figures.

Nonpareil Almonds	14	@	17
I X L Almonds	12½	@	14½
Ne Plus Ultra Almonds	12	@	14
Languedoc Almonds	9½	@	11½
Peanuts, fair to prime	5	@	5½

Wine.

There is no evidenco of much doing in the wholesale wine market in this center, Dry wines of 1903 vintage are quoted at 15@17c. per gallon, San Francisco delivery, but these figures are more in accord with asking prices of growers than with the bids of wholesale dealers. Grapes for dry wines are expected to range from $15 @$18 per ton, but with the exertion of undue selling pressure the acceptance of lower figures may be necessary. Sweet wines are in liberal supply, and 30c. per gallon asked for last year's product at wineries. The steamer San Jose, sailing August 27, carried 85,881 gallons and 17 cases wine, including 81,539 gallons for New York. Receipts of wine at San Francisco last week were 241,600 gallons, and for previous week were 219,475 gallons.

Produce Receipts.

Receipts and exports of leading cereals and other California products for tbe past week and for the season to date, as compared with the corresponding time the previous year, are as follows:

FOR THE WEEK.		Since July 1, 1904.	Same time last year.
Flour, ¼ sks	169,189	874,305	999,364
Wheat, ctls	24,987	245,794	353,051
Barley, ctls	88,925	506,157	1,087,886
Oats, ctls	27,036	150,437	190,012
Corn, ctls	2,326	16,695	16,938
Rye, ctls	956	8,714	12,576
Beans, sks	5,492	26,835	17,561
Potatoes, sks	21,330	181,803	199,253
Onions, sks	3,785	22,277	27,890
Hay, tons	7,389	42,854	44,890
Wool, bales	1,364	9,880	10,288
Hops, bales	34	253	1,321

EXPORTS BY SEA.

FOR THE WEEK.		Since July 1, 1904.	Same time last year.
Flour, ¼ sk	20,814	572,500	601,272
Wheat, ctls	75	21,864	110,644
Barley, ctls	7,777	114,731	672,058
Oats, ctls	1,495	4,050	5,662
Corn, ctls	322	2,053	2,929
Beans, sks	1,306	4,567	3,504
Hay, bales	4,491	24,708	29,130
Wool, lbs	72,027	707,522	993,860
Hops, lbs	219	6,174	61,938
Honey, cases	19	329	72
Potatoes, pkgs	3,155	13,301	14,538

BUTTERFLIES INJURE ALFALFA.—Visalia Times: B. F. Lawless, the bee man, who was bere Monday from his ranch east of town on his way to Sissions, states that the bees are not doing well this year principally, he believes, on account of the injury done to the alfalfa early in the season by army worms and by the resultant butterflies. Mr. Lawless says that much of tbe seed alfalfa was killed by the worms wbile from the larvæ of these have sprung a hoard of butterflies which monopolize the blossoms. He states that just recently he saw a large alfalfa field where there appeared to be at least three butterflies to every blossom. This does not provide food for the bees.

WILL HAVE A BIG ORANGE CROP.—J. J. Cairns, the well-known orange grower of Lindsay, is making preparation on behalf of the Lindsay Orange Growers' Association to market the crop this fall and winter. The Association, which recently withdrew from the Southern California Fruit Exchange, will route its fruit this season through the California Exchange of the northern part of the State. Mr. Cairns says that Lindsay will have this year by far tbe largest crop of oranges in the bistory of the citrus industry in that section. A large acreage of oranges will come into bearing this year while a much larger acreage of lemon trees wbich were cut back and budded to oranges will be fruitful this year. The older trees also give promise of a much beavier crop tban usual. Altogether Mr. Cairns estimates that the crop in the Lindsay section will be one-fourth larger tban last year.

MUST PAY HIGH FOR POTATOES.—A Portland, Or., dispatch under date of Aug. 24 says: A car window view of tbe crop prospects down through the Willamette valley convinces one tbat many merchants will have to pay more money for their winter potatoes this season than last, as there appears to be not only a short crop of potatoes, but everything else in the agricultural line. Corn is everywhere stunted and in many fields will fail to make any crop at all. From Roseburg to Eugene, with the exception of the vivid green of clumps of evergreen trees, pine, fir and spruce, the fields look as dry and barren as the Colusa plains after harvest. Toward Salem the farming districts sbow some improvement, but the unharvested crops look poor indeed. In the Woodburn district the crops are not up to the average. It is here that a scarcity of potatoes is quite apparent. Lack of moisture is the cause.

New Patents.

DEWEY, STRONG & CO.'S SCIENTIFIC PRESS PATENT AGENCY, 330 Market St., S F., has official reports of the following U. S. patents issued to Paoific coast inventors:

FOR WEEK ENDING AUGUST 16, 1904.

767,792.—CLOTHESPIN—H. S. Brougbton, Salem, Or.
767,626.—CIGARETTE MAKING DEVICE—A. E. Bucklngham, Oakland, Cal.
767,386.—POTATO SLICER—C. Canclini, Sonora, Cal.
767,926.—CONCENTRATOR—C. A. Cbristensen, Oretown, Or.
767,544.—BRIQUET MACHINE—J. J. Crawford, S. F.
767,634.—CROSSCUT SAW—D. E. Crouch, Tollhouse, Cal.
767,685.—WELL DRILL—A. F. Darling, S. F.
767,546.—RAIL JOINT—J. T. Davis, S. F.
767,397.—SAWING MACHINE—O. W. Fairfield, S. F.
767,403.—WRENCH—Glover & Hulbert, Santa Rosa, Cal.
767,562.—WINDMILL REGULATOR — A. R. Hoesly, Martinez, Cal.
767,890.—HARROW—G. W. Hoyle, Cloverdale, Cal.
767,893.—HOSE COUPLING—W. S. Jewell, Oakland, Cal.
767,586.—FIRE ENGINE HEATER — J. C. Mattbeis, Alameda, Cal.
767,824.—CONVEYOR—W. J. McCabe, Seattle, Wash.
767,911.—SWIVEL TRUCK—W. J. McCabe, Seattle, Wash.
767,825.—GEAR WHEEL—M. McIntyre, Canyonville, Or.
767,908.—KITCHEN CABINET—F. Miller, S. F.
767,592.—MACHINE TOOL STOP—J. B. Orbison, S. F.
767,526.—CYLINDER REDUCER—J. N. Paulson, Seattle, Wasb.
767,527.—CYLINDER REDUCER—J. N. Paulson, Seattle, Wasb.
767,443.—WELL—M. D. Rochford, Los Angeles, Cal.
767,601.—OIL BURNER—A. J. Smithson, Portland, Or.
767,919.—BEET PLOW — H. F. Thompson, Springville, Cal.
767,610.—TICKET DISTRIBUTOR—C. H. Townsend, Berkeley, Cal.
767,616.—BELT SHIFTING DEVICE—J. Weichbart, S. F.
767,619.—CUSPIDOR LIFTER—J. M. Whitney, Sonora, Cal.
767,464.—GAS VALVE—G. Wilson, Los Angeles, Cal.

Splendid Property for Sale

31 52/100 ACRES ON S. P. R. R., THREE MILES north of Porterville, Tulare County. In famous citrus belt. Under Ploneer ditcb; also well 163 ft. deep. Eigbt H. P. gasoline engine; 3 in. Krogh centrifugal pump tbrowing 30 in. water. 6 acres bearing oranges, Washington Navels, and Lisbon lemon trees; 12 acres young orange trees, age two years; 3 acres budded oranges from lemons; 6 acres selected bearing vineyard; 5 acres Egyptian corn. House, barn, etc. First-class lemon cellar, witb superstructure 20x40 ft. Horses. wagon, implements, and all necessary adjuncts to successfully carry on the raising and handling of crop. Crop of last season, 1200 packed boxes. Lemons 98% fancy; oranges over 90% fancy. Interest in ditch and packing house. Property is fully equipped, clear, and title perfect. Will sell witb or witbout this year's orop. Will deal with prospectlve purcbaser only; no agents. PRICE WITH CROP, $14,500.

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The PARAFFINE PAINT CO.
24 Second Street, San Francisco
Los Angeles, Portland, Seattle, Denver

Bright's Disease and Diabetes News.

Sacramento, Cal., Jan. 30, 1904.

To relatives of those having Bright's Disease or Diabetes:

Knowing what I do I consider that it would be almost criminal to conceal the knowledge I have as to the curability of Bright's Disease and Diabetes when there are so many homes constantly saddened by the presence of these hitherto fatal diseases.

I had Diabetes myself for many years—had exhausted the best of medical talent here without result — it steadily progressed till I heard that there was a cure for it in San Francisco. It looked unreasonable but I sent for it. In a few weeks I was on the mend and in six months was in my usual health and strength. I then put an engineer of our road on it. He was broken down with Diabetes and was retired. In a few months he was back to his old position on his engine. Later my son, aged thirteen years, was discovered by our physicians to be in an extreme condition as the result of Bright's Disease. They felt certain he could not live but a short while. I got the treatment for him and he is now, to our delight, strong and vigorous again and at school and growing wonfully. Many here are taking the treatment. I have told a great many in person, for I know it to be an almost certain cure for Bright's Disease and Diabetes in all stages.

Yours faithfully,
CHAS. A. NEWTON,
Yardmaster S. P. R. R. Co.

The above refers to the newly discovered Fulton Compounds, the first cures the world has ever seen for Bright's Disease and Diabetes. Send for pamphlet to Jno. J. Fulton Co., 407 Washington street, San Francisco.

Cattle For Sale.

The undersigned has for IMMEDIATE SALE (on account of dissolution of partnersbip) tbe following lots of choice cattle:

150 3-year-old, pure-bred Shorthorn Heifers safe in calf to Shorthorn Bulls. A very desirable lot.

20 yearling, pure-bred Shorthorn Bulls.

175 3-year-old, High-Grade Steers.

150 Native Cattle, mixed sexes, ranging in age from 3 to 5 years.

These cattle can be seen on the ranch one mile from Sulsun. For further particulars, apply to

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If You Have a Brand New Separator not a Tubular, put it in the garret.

We will sell you a Sharples Tubular, guaranteed to make enough more butter than the other from the same milk to pay 25 per cent yearly dividend on the whole cost of the machine. You test them side by side.



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Sharples Co. Chicago, Illinois — P. M. Sharples West Chester, Pa.

FRUIT MARKETING.

Commercial Uses of Apricot Kernels.

From United States Consul-General R. P. Skinner, Marseille, France.

In reply to a series of questions propounded by a California correspondent, I have to say that both the sweet and bitter almond oil of commeree are usually obtained from apricot pits, which are much eheaper than the true sweet and bitter almonds, and yield a product approximately as valuable. In this part of Franee, where apricots are grown on a very large scale and manufactured into jelly and marmalade, the pits are earefully preserved and dried, and are usually taken by the manufacturers of oils and essences at Grasse, Alpes Maritimes. Considerable quantities of these kernels are also imported. The apricot pit yields an oil analogous to that of the bitter almond. The pits, after having been dried in the sun, are cracked by hand, and it is essential that the kernel be obtained in an unbruised condition.

Sweet almonds and the pits of apricots, the kernels of which yield a relatively sweet oil, are crushed with their brown skins; bitter almonds and the kernels of the apricot are first relieved of their pellieles.

The kernels of sweet almonds and analogous fruits yield a fatty oil and an unformed ferment called "emulsin." These substances are also found in bitter almonds and in the apricot pit, and in addition thereto amygdalin, a glucose, found as a white crystalline substance. Sweet almonds yield from 40% to 50% of oil, bitter almonds 30% to 45%, and the kernels of the apricot 28%. The oil of the apricot pit is yellow and limpid, and contains a small quantity of hydrocyauie acid. It is ordinarily mixed with two parts of olive oil, and quickly becomes raneid.

The manufacture of the oil is an ineident necessary to the subsequent extraction of the essence. While the oil is used not only for medicinal purposes, but as an illuminant, and even as a salad oil, the essence has a high commereial value, and is produced upon a large scale at Grasse, which is the world's center of perfume production.

I have no present satisfactory information in regard to the extent of the market or the prices. At retail the oils sell at from 29 to 31 cents a liter [1.05 quarts]. The undecorticated pits are quoted at from $9 65 to $10.61 for 220 pounds. H. Beau & Cie., 26 Rue Montgrand, Marseille, would be disposed to receive with interest propositions for the sale of American kernels, and would be able to quote the market price. As has been explained, the manufacture of the oils and essences takes place principally at Grasse, where the following well-known firms are engaged in it: Berenger Jeune, Cresp-Martineng, Hugues-Guezet, Isnard-Maubert, Lautier Fils, J. Mero & Boyveau, Henri Muraour & Cie., P. Robertel & Cie., Warrick Freres.

Marseille, France, July 12.

American Prunes in Europe.

The Hungarian official pomological organ states in its latest number that the enormous supply and peculiar soft condition of Ameriean prunes in Europe has awakened a lively interest everywhere of late. This organ states that an examination of such prunes was made in Germany, and that they were declared to be soaked with a fluid containing from 10% to 12% of glyeerine to artificially increase their size and weight. The organ quoted goes on to warn Hungarian buyers against all Ameriean preserved fruits, and to call American fruit merchants "profit seeking and officious." It is evident from the foregoing that there is a market, even in Hungary, for Ameriean prunes, and that each shipment should be accompanied by a certificate of purity from some chamber of commeree or board of health, and so well packed as to prevent repacking by middlemen in Europe.—Frank Dyer Chester, Consul-General, Budapest, Hungary.

Deciduous Fruit Shipments.

[From the Sacramento Valley Development Association, Sacramento.]

Shipments of California fruits to Eastern points which have passed through Sacramento this season to date aggregate 3330½ carloads as follows:

	Cars.
Cherries	209
Apricots	96
Apples	8½
Peaches	475
Plums	990
Figs	2
Pears	1,400
Grapes	150
Total	3,330½

These figures cover almost the entire fruit shipments from the State. The total is considerably less than that of shipments to the same date last year. The shortage is prineipally in apricots and peaches, these crops being light throughout the State. Apricot shipments last year aggregated 231 cars, peach shipments 1866 cars.

Cherry shipments are approximately the same as last year. Pear and grape shipments to date exceed those of last year. Grape shipments have barely begun. The crop is heavy and of good quality. The pear crop is unusually large. The prune crop is large and of good quality.

Saeramento valley oranges promise a good crop of excellent quality, and with favorable weather conditions will ripen early as usual. Olives promise a fair crop of exeellent quality in Saeramento valley regions, though short in some portions of the State. Almonds will be a short crop and almond prices rule correspondingly high. Figs are yielding a good crop. Canners are using more figs than ever before and fresh fig shipments are increasing.

Fruit prices have, as a rule, been very satisfactory. Canners have paid good prices for apricots and peaches, thereby reducing Eastern shipments. Pears have failed to maintain uniformly high prices, the heavy shipments operating at times to depress values. While this has been an off year in some respects, fruit growers as a rule did fairly well. Saeramento valley growers who had crops are reported well pleased with returns, and as the bulk of California's deciduous fruits are grown in this valley this is true of the majority of growers in this State.

The condition of eauned and dried fruit markets is fairly satisfactory exeept in the case of prunes and raisins. The orgauizations which formerly controlled these crops have gone to pieces through disagreements and the result is a condition which threatens growers' profits.

Sacramento, August 29.

Popping of lamp-chimneys is music to grocers.

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Dr. S. A. Tuttle, a veterinary surgeon of long experience has written a book entitled "Veterinary Experience" on the diseases of horses, giving symptoms and treatment in plain terms. It is fully illustrated with diagrams showing the skeleton and circulatory and digestive systems with references that make them plain. Tells how to buy a horse and know whether it is sound or not. Every horse owner should have one. It is sent to any one.

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THE IRRIGATOR.

Using Salt Water to Wash Out Salt.

What to do when common salt accumulates in the soil from continual irrigation with brackish water is sometimes a very important question. Some interesting results are announced by Mr. C. F. Eckart, Director of the Experiment Station of the Hawaiian Sugar Planters' Association at Honolulu. He shows that you can wash out the accumulation by the occasional use of a large volume of the salt water which by constant use in small quantities filled the soil with salt. The following is drawn from his recent publication in Bulletin 11 of the station:

Earlier Experiments.—It was found that when occasional excessive irrigations were applied to cane growing in tubs (constructed so as to allow of free drainage), the use of irrigation water of high salt content only checked in small measure the growth of the cane. It was shown that large quantities of lime were liberated from the soils in these tubs through displacement by the sodium in the irrigation water, and it was indicated that the lime chloride so formed had a less injurious effect on the cane than a like amount of salt in the soil water. The data contained in this report are the results of investigations pursued in the field, where the information gained from the tub tests was applied on a larger scale for confirmation of results. Nine plats, each 1500 square fect in area, were laid off in the Experiment Station field, planted with Lahaina cane, and treated in various ways.

Conclusions.—It was found that lime is a potent agent in modifying the deleterious effect of saline irrigation on the growth of cane. On the Experiment Station field, application of lime in the forms of ground coral and gypsum and at the rate of two tons of lime per acre resulted in a gain of sugar amounting to 46%; the irrigation water containing 200 grains of salt per gallon.

Occasional heavy irrigations given to a moderately porous soil receiving brackish irrigation, is most effective in reducing the salt content of the soil to a less toxic quantity. A gain of 88.1% of sugar was obtained in the Experiment Station field by a 5-inch irrigation every eighth watering; at least 77% of this gain may be attributed to the leaching of salt accumulations from the soil.

First Principles of Agriculture.

The introduction of agriculture as a study in the lower schools is being made possible by the preparation of suitable text books, stating principles and suggesting demonstrations which the teachers and pupils can work out together from material at hand in all rural communities. When this course is pursued the subject becomes of engrossing interest. A book just published by the American Book Company, entitled "First Principles of Agriculture," enables any teacher to introduce the study in the way indicated, and to succeed with it. The book is the work of the late Professor E. S. Goff of the University of Wisconsin and Professor D. D. Mayne of the School of Agriculture of Minnesota, and is masterly in its conception of the principles themselves and exceedingly clear in the elucidation of them.

Sewage Irrigation at Pasadena.

Pasadena has just the kind of sewer farm Santa Rosa would like to have, in the opinion of the Press-Democrat. The Pasadena sewer farm was referred to in the discussion and some figures from the annual report of the city government for the year 1903. The receipts for the year were $9,446.27. The disbursements, including salaries, labor, handling of crops and all other expenses amounted to $5,124.36, leaving a profit on the year's operating of the sewer system of $4,321.81. The farm is now on a firm financial basis, and within a few years, as the different industries develop, and the harvests increase, the city of Pasadena expects to realize in the neighborhood of $25,000 clear profits each year.

On the Pasadena sewer farm there is a walnut grove of sixty acres which realized for the city $4,738.75 for the year ending January, 1903. There are thirty acres of young trees which have not yet come into bearing. There are ninety acres in English walnuts, twenty acres in pumpkins, 130 acres in hay and grain, forty acres in corn and six acres in alfalfa, fourteen acres being occupied by farm building and the home of the manager.

The receipts for the year from the Pasadena sewer farm were as follows: Pumpkins, $212.51; corn stalks, $3; pasture, $57; alfalfa and barley hay, $2,477.54; walnuts, $4,809.84; hogs, $966.37; hay to fire department, $478.02; hay to street department, $387.24.

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SHORTHORNS—Quinto herd. 41 premiums Cal. State Fair 1903; 24 premiums Cal. State Fair 1902. Young stock for sale. Send for catalogue. Est. of W. H. Howard. 206 Sansome St., San Francisco.

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A.J.C.C. JERSEYS. Service hulls of noted strains. Joseph Mailliard, San Geronimo, Marin Co., Cal.

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PETER SAXE & SON, Lick House, S.F.,Cal. Importers, Breeders and Dealers for past 30 years. All varieties Cattle, Horses, Sheep, Hogs. High class hreeding stock. Correspondence solicited.

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L. W. CLARK, Petaluma, Cal. White Leghorns, the white kind that lay lots of large, white eggs.

BLACK LANGSHANS, king of table fowls; excellent layers. Eggs for hatching from thoroughhred stock, $2 for 13. E. George, University Ave. near Spring St., San Jose.

BRONZE TURKEYS—Ed. Hart, Clements, Cal.

WHITE MINORCAS, Pekin Ducks and Barred Rocks. Willis S. Rose, Antioch, Cal.

C. B. CARRINGTON, Haywards, Cal. White Leghorns. Send for folder giving prize record from 1899 to Dec. 1903. Cockerels $12 per dozen, up.

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GEO. V. BECKMAN, Lodi, San Joaquin Co., Cal. Registered Poland-China Hogs, both sexes.

BERKSHIRE AND POLAND-CHINA HOGS. C. A. Stowe, Stockton.

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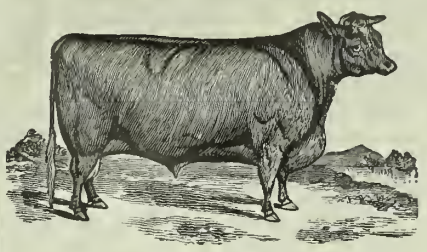
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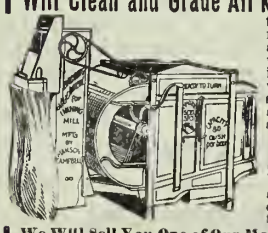
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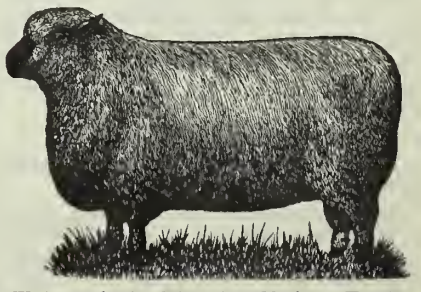


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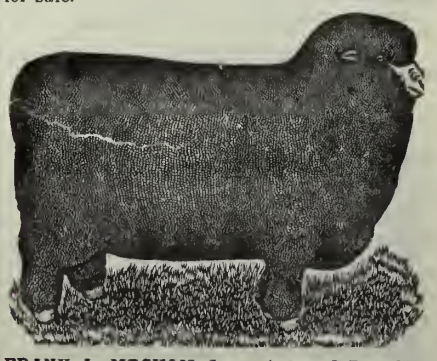
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THE STOCKYARD.

State Fair Awards.

The following awards of prizes in the several live stock classes are announced—the prizes being the result of judging by Professors Carlyle and Major:

JERSEY SWEEPSTAKES.

Judging of champions. Gold medal and ribbon. Jerseys, Class 7. Over 2 years:

Senior champion hull—Ruff O'Stain. General W. R. Shafter.

Reserve champion hull—Carter of Cosumnes. Eaton & Shaw.

Junior champion hull — Sir Carlyle. Thomas Waite.

Junior champion reserve hull—Geronimo Marigold. Chisholm.

Senior champion cow (gold medal)—Rosalie. General Shippee.

Reserve champion cow—Dorine C. Marigold. Chisholm.

Junior champion cow (gold medal)—Chico Marigold. Chisholm.

Junior reserve champion cow—Cordelia. Eaton & Shaw.

Grand champion bull (gold medal)—Ruff O'Stain. General W. R. Shafter.

Grand reserve champion hull (silver medal)—Carter of Cosumnes. Eaton & Shaw.

Grand champion cow (gold medal)—Rosalie. General W. R. Shafter.

Grand reserve champion cow (silver medal)—Dorine. Chisholm.

HOLSTEIN CHAMPIONS—CLASS 6.

Senior champion bull (gold medal)—Jetze. Pierce Land & Stock Co.

Reserve champion hull—Fideca Butter Boy. Pierce Land & Stock Co.

Junior champion bull (gold medal)—Sarcastic Blossom Lad. A. P. Hotaling.

Reserve champion bull—Butter King. Pierce Land & Stock Co.

Grand champion hull (gold medal)—Jetze. Pierce Land & Stock Co.

Grand reserve champion hull (gold medal)—Fideca Butter Boy. Pierce Land & Stock Co.

Senior champion cow (gold medal)—De Koe of Valley Maid. Pierce Land & Stock Co.

Reserve champion cow—Julia Hengewells. Hotaling.

Junior champion cow (gold medal)—Belle Juliette. Pierce Land & Stock Co.

Reserve junior champion cow—Fahiola. Hotaling.

Grand champion cow (gold medal)—De Koe of Valley Maid. Pierce Land & Stock Co.

Grand reserve champion cow (silver medal)—Julia Hengewells. A. P. Hotaling.

Grand sweepstakes (gold medal)—Bull and four cows under 2 years. First, Pierce Land & Stock Co.; second, A. P. Hotaling.

Junior hull and four cows (gold medal)—First, Pierce Land & Stock Co.; second, A. P. Hotaling.

After inspecting the herd of Holsteins entered by the Pierce Land & Stock Co., Professor Carlyle said:

"The State of California may well feel proud of its Holstein cattle. I have judged in many parts of this country, but I feel safe in declaring that this is the finest herd of Holsteins in the United States to-day. Nowhere in the country is there a herd to compare with this."

SHORTHORNS.

The results in the Shorthorn classes are as follows:

Senior champion hull—Hilcrest Hero. J. H. Glide & Son.

Reserve champion hull—Blythe Victor. J. A. Marzen.

Junior champion hull — Scotch Marshal. J. H. Glide & Son.

Reserve junior champion hull—Glide's Gloster. J. H. Glide & Son.

Senior champion cow—Elgetha. J. H. Glide & Son.

Reserve senior champion cow—English Lady. J. H. Glide & Son.

Junior champion cow—Roan Myrtle. J. H. Glide & Son.

Reserve junior champion cow—Romania Pride. Howard & Pickering.

Grand champion bull (gold medal)—Hilcrest Hero. J. H. Glide & Son.

Reserve champion hull (gold medal)—Blythe Victor. J. H. Glide & Son.

Grand champion cow—Elgetha. J. H. Glide & Son.

Reserve champion cow—Roan Myrtle. J. H. Glide & Son.

SHORTHORNS, OPEN CLASS, FREE FOR ALL.

Bulls, 3 years old or over—First prize, $40, J. H. Glide & Son's Hilcrest Hero; second prize, $20, Joe Marzen's Blythe Victor; third prize, $10, J. H. Glide & Son's Count Amaranth II.

Bulls between 2 and 3 years old—First prize, $30, Howard & Pickering's Oxford Grand Duke; second prize, $15, J. H. Glide & Son's Inward Surprise; third prize, $7.50, Howard & Pickering's Chief of Valley View.

Bulls between 18 and 24 months old—First prize, $20, J. H. Glide & Son's Scotch Marshal; second prize, $10, California Pasture & Agricultural Association's Lester Chief; third prize, $5, Howard & Pickering's Ramsden Lord.

Bull calves between 12 and 18 months old—First prize, $15, J. H. Glide & Son's Glide Gloster; second prize, $8, H. P. Eakle's Aladdin; third prize, $4, Joe Marzen's Blythe Victor.

Bull calves under 12 months old—First prize, $10, Howard Estate's King Spicy; second prize, $5, Howard Estate's King Spicy 70; third prize, $3, Howard Estate's Golden Fashion.

Cows, 3 years old and over—First prize, $40, J. H. Glide & Son's Elgetha; second prize, $20, J. H. Glide & Son's English Lady; third prize, $10, Oakwood Park Farm's Common.

Cows between 2 and 3 years old—First prize, $30, J. H. Glide & Son's Cambridge Barrington IV; second prize, $15, H. P. Eakle's Village Flower; third prize, $7, Howard & Pickering's Glenwood Ramona.

Cows between 18 and 24 months old—First prize, $20, J. H. Glide & Son's Roan Myrtle; second prize, $10, J. H. Glide & Son's Clover Leaf; third prize, $5 J. H. Glide & Son's Fair Maid.

Calves between 12 and 18 months—First prize, $15, Howard & Pickering's Ormida Browndale; second prize, $8, J. H. Glide & Son's Helen Gloster; third prize, $4, J. H. Glide & Son's Vine Blossom.

Calves under 12 months—First prize, $10, Howard & Pickering's Ramona Pride; second prize, $5, California Pasture & Agricultural Association's Daisy; third prize, $3, Howard & Pickering's Fashion Maid.

Class I, cows, 2 years old, special, seniors and juniors, given by Shorthorn Breeders' Association. One to 2 years—First prize, $15, J. H. Glide & Son's Roan Myrtle; second prize, $10, Howard & Pickering's Omida Browndals; third prize, $5, J. H. Glide & Son's Helen Gloster.

Exhibitors' herds, bull and four females—First prize, $50, J. H. Glide & Son; second prize, $25, Howard & Pickering; third prize, $10, California Pasture & Agricultural Association.

Breeders' young herd, hull and four cows, all under 4 years—First prize, $40, Howard Estate; second prize, $20, California Pasture & Agricultural Association; third prize, $10, Baden Stock Farm.

Get of sire, four animals under 4 years, either sex—First prize, $30, J. H. Glide & Son; second prize, $20, Howard Estate; third prize, $10, Joe Marzen.

Produce of dam, two animals, either sex—First prize, $20, California Pasture & Agricultural Association; second prize, $15. Howard Estate; third prize, $10, Baden Stock Farm.

In this connection a statement made by Professor Carlyle while inspecting the aged cow class of Shorthorns may be added:

"This," he said, "is one of the finest herds of cows it has ever been my pleasure to judge. You do not have to go from this coast to St. Louis or other Eastern shows to see fine stock. These cows would make a good showing in competition with the best in the United States, such specimens as Roberta and Cecelia included."

THE KENNEL.

How to Train a Dog.

Mr. W. E. C. Smith writes for the Rural New Yorker his experience with dog training, and it will be read with interest by the many who do something in this line, although they may not agree with all which he prescribes:

Spoiling the Puppy.—The training of a dog is something that is shamefully neglected by the average dog owner. In fact, there is only about one man in twenty who ought to have a dog. Most people, when they become the possessor of a puppy, take him home, and he is petted and loved, cuffed and kicked until he grows up, and no attention whatever is paid to his education. He possibly becomes a nuisance to the neighbors, makes hard feelings between them and his master, and in the end proves a very unsatisfactory piece of property, whereas, had he been taken in hand when small and "trained up in the way he should go" he would be far more valuable from a financial standpoint, people would like him instead of disliking to see him around, and he would prove a far more satisfactory possession to his owner. What better friend is there or animal that we become more attached to than a good, clever, well-trained and well-behaved dog? He is always ready at his master's call, does his bidding to the best of his understanding, no matter how hard, with his tail wagging and an expression of joy on his countenance, and his love for his master is so great that he will risk his life time and again for him. He will stand the severest punishment without resentment, and no matter how much abused is loyal and true.

Starting the Education.—It is well worth the trouble and pains necessary to have your dog know all that you can teach him, whether you do it with a view to disposing of him at a profit in the end or keeping him for a friend and protector of your family and possessions. A dog's education should begin at about the age of from eight to twelve weeks, and by the time he is a year old he should be ready to graduate. The old saying that "it is hard to teach an old dog new tricks" is literally true. A review, however, as often as you feel disposed to hear his old lessons, will do him good and keep him reminded that he has an education and a reputation to sustain. There are a few things every dog, no matter what his breed or for what purpose he is going to be used, should know. One of the first importance is when his master calls he should come, no matter what he is wanted for. It is quite easy to teach a dog this by tying a long rope (a piece of clothes line is good) to his collar, stepping back a little, calling him by name, and saying, "come here." If he hesitates draw him to you. Do this under all conditions you can think of, sometimes with a whip in your hand and speaking cross as though you were going to whip him. If he does not come readily by gently drawing him jerk him in quick and give him a cut or two with the whip; then step back and call again, repeating the process until he responds promptly of his own accord. After he has got so he will come to you untie him and call without the rope. If he slinks away catch him if it takes the rest of your natural days to do it; give him a good sound thrashing and go all over the process again. The dog will soon see that you are determined, and will not need many lessons before you can call him to you as far as he can hear your voice. A dog that will not come when he is called is one of the most provoking animals on the face of the earth. Another thing every dog should be taught is to lie down when told. This can be taught him when teaching him to come to you by simply saying "charge" and pushing him down; he will soon learn what "charge" means, and lie down the minute the word is spoken to him. It goes without saying that every dog should be "house broke." A dog that will not let his desires be known when he wishes to be let out of doors is not wanted by any one.

Hunting Dogs.—If your dog is a setter or pointer, and is going to be used for hunting, he should be taught to stop when you say "whoa" to him, and stand still until told to "hie on." To teach him this tie the rope to his collar, set a dish of food down, let him smell it, then take him away off and let him start for it. After he has taken a few steps say "whoa" and stop him with the rope. Try this a few times, then say "whoa" without using the rope. If he stops, good; if not, bring him up with a round turn. Keep this up as before, until he will stop without the rope being attached to him. He can be taught to retrieve by throwing a glove and teaching him to get and "fetch" it to you. It is well at intervals to get your dog used to the noise of a gun by making a noise similar to the report of a gun, or even firing a revolver and finally your gun in his presence. A "gun shy" dog is absolutely worthless as a hunter.

Field Work.—After he has learned the above he is ready to go into the field. The hunting and pointing instinct has been bred into the setters and pointers so long that they generally do not have to be taught these things. Occasionally, however, a dog will not point, and even if he does he is apt not to hold his point as long as you wish him to, and here is one place where his lesson in obeying the word "whoa" comes in. When you see that he is hot on the trail of a bird stop him and he will doubtless point. Get close close behind him and tell him to "hie on." If the bird is there he will flush it, when, if you are a good shot, the next business you dog has on hand is to "go fetch." If the bird is not there, work him along until he comes to it. After a few of these lessons the dog will come to a point (if he does not point by instinct) without any instructions.

Self-Control Needed.—The training of a dog, especially if he is not very tractable, is a very exasperating undertaking, and a man should make up his mind before he begins to hold his temper. If he does not do this, and remember it all the time he is handling his dog, he will whip and abuse him unnecessarily. Never whip when training unless you are absolutely certain your dog knows what you want and won't do it. When you are thoroughly convinced that he is obstinate, give him a rousing good thrashing. It works with him the same as it does with a schoolboy. If he knows he will get off with a boxed ear or a scolding he will not mind near so readily as he will if he knows there is a sound trouncing behind an act of disobedience. A well-trained bird dog, with a good, keen nose, is worth and will readily sell for $50, and may bring much more. Any farmer boy with the patience, old enough and with the judgment to handle a gun, can buy a puppy, train him and get a handsome profit for the time and trouble expended, and, even if he does not wish to sell his dog, it is very pleasant when his city friends call on him to start his dog after something, and, when he gets part of the way, make him "whoa," "charge" and "hie on" several times, and finally "fetch" the object, and perhaps go through many other maneuvers that he has been taught.

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Large experience in orchard and garden and with farm animals. Will take charge of commercial orchard or country place. For full information, address E. A. O., care of this office.

Single man of experience in looking after orchard and drying fruit would like position as foreman.

Address Box 29, care of this office.

WANTED—SINGLE MAN OF EXPERIENCE, energy and ability, to act as foreman on large fruit ranch in S. J. valley. Must be thorough in viticulture, horticulture and general farming. Permanent place and good wages for right man. Address Box 18, care of this office.

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THE POULTRY YARD.

Trap Nest Propositions.

Mr. James Shackelton writes for the Petaluma Poultry Journal about trap nests and the use of them. He names Wellcome's Ideal as the only truly satisfactory nest known to him and says it seems desirable to offer forthwith suggestions as to the essentials of a proper trap nest, and to tell how the nest named fulfills them.

Most known trap nests have two compartments and can only be used in that form. That involves large size, and also a particular manner of placing the nest that may not be and usually is not easily practicable in a small house as a poultry house commonly is, and properly should be. As eight nests are about right for twenty-five layers it is quite a problem to place them, if of two compartments, in most poultry houses. And most such nests require to be placed in a particular way that makes the problem insolvable.

Most known trap nests have some feature in the trapping that is likely to scare the birds, and cause them to avoid the nests. Many known trap nests are distinctly uninviting to the fowls, so the fowls will lay anywhere but in the nests. Many known trap nests are hit or miss as to recording. Some of them permit a hen to get out, and another to get in, which impairs all records.

To my mind, the specification of a good trap nest for general use is about like this: It must be no larger than an ordinary box nest that has bottom, back sides, and top boards. It must be such as may be carried on brackets above floor, or resting on floor or ground. Eight of them or more should be easily put in a suitable place without putting them in tiers. The trap arrangement should be about noiseless, the nest ventilated, trapping should always be effective, and nothing about the nest should be unattractive to the fowls, and nothing to scare them. Wellcome's Ideal reasonably fills this specification. It is nothing but an ingenious form of opening in the door that permits a fowl to see into and get into a semi-dark place nicely prepared for her to deposit her precious egg.

As soon as one hen has entered, the trap operates almost noiselessly and without shock, merely partially closing the opening so that the hen cannot leave nor another enter.

There is just one thing it cannot do, and it should not be expected. That is, the same nest will not do for a bird of Leghorn size and another of Brahma size. But then, for other reasons, any one keeping fowls of great difference in size in same lot is a long way from proper poultry keeping. And Ideal nests can be made to suit all sizes if the sizes are kept in different houses. The Ideal can be made to stand facing into house, or facing wall, or on brackets, or on floor, or in tiers if that suits you. We make them out of H.O. oats or Pillsbury's Vitos boxes, which cost us 5 cents each. The wooden parts of trap cost us $1.50 per twenty sets. Hardware say 2 cents per nest. Total, say 15 cents per nest, and a little labor of our own.

Eight nests for twenty-five layers will do very well. They should be visited four times per day. You simply open door, take out hen, read number of her leg band, mark that and date on egg, then reset trap and close door. Before opening you can see whether a hen has done her laying or not, so you need not disturb her if unnecessary. There should be none other than Ideal nests in the house. Then the birds will learn to enter them speedily, and will like them if you handle the birds gently and quietly when removing. Very few or no eggs are likely to be laid outside the nests if you are reasonably careful about your actions. When this article is finished I will attempt to show you why you should always be gentle with fowls.

While all I have heretofore told about poultry and all I can hereafter tell, has been, in a sense, made possible through identification of layers, my aim, in this article, is to exploit many details essential to proper knowledge of fowls, and good results from their maintenance, that are attainable to any poultry keeper who will cultivate the acquaintance of the hen that lays the egg. Let me just say here that if poultry keeping is your business you ought to do it up to the handle. And you cannot do it up to the handle by knowing that so many birds lay so many eggs. There seems to be no end to what one can learn from knowing the layer of each egg.

THE DAIRY.

The New Dairy Association.

The movement for a new dairy association received a strong forward impulse at the meeting held in Sacramento on Tuesday of this week. The object of the movement was stated by Mr. Edward F. Schulz, secretary of the San Francisco Dairymen's Association, who called the meeting to order. According to the Sacramento Bee, he spoke briefly upon the needs of such an organization to the dairymen. He said organization was needed to combat the encroachments by boards of health upon the dairy business and to modify radical legislation into proper measures.

Temporary organization was then accomplished, and John L. Daily of San Francisco placed George L. Perham of San Francisco in nomination for temporary chairman, and he was elected, and Edward L. Schulz of San Francisco was chosen temporary secretary.

Organization a Great Help.—Mr. Perham said the local dairymen of San Francisco had found the organization a great help, and he felt that a State organization would be a greater help. He said the dairymen did not wish to combat legislation unless it was drastic legislation. He declared they certainly would not fight any measures that would better dairy conditions. He said he visited a Sacramento dairy this morning and found it one of the best in the State. He said Sacramento was to be congratulated upon its milk supply, if all the dairies were like the one he had visited.

The Old Association. — Samuel E. Watson, of San Francisco, read a report of the proceedings of the old State Dairy Association. The report stated that the old Association was organized in 1893, and a board of directors composed of a member of each local organization was appointed. The board met every year, and matters of interest to dairymen were discussed. The Board advocated the establishment of a State Dairy School, which was accomplished in 1901. The membership at one time reached nearly 200. The board made a mistake, said the report, when dues were reduced from $3 to $1 a year. The Association last met in 1902, when it practically came to an end. The annual reports published of the proceedings contain some excellent literature on dairy subjects, for many good addresses were delivered before the Association. Nine annual reports in all were published. The report stated that the Association made many mistakes, which the new organization could profit by. A vote of thanks was given Mr. Watson for the information contained in the paper.

National Convention. — Secretary Schulz read a communication from the California Promotion Committee, signed by Rufus P. Jennings. The letter congratulated the new Association upon its organization. It also asked that the Association help to secure the National Convention of Butter Makers for San Francisco in 1905. It stated that convention would bring several thousand people to this State, if it is secured. No action was taken on the letter, as permanent organization had not yet been accomplished.

Chairman Perham appointed the following to perfect permanent organization:

Organization—George Hopping of Woodland, E. S. Babue and John L. Daily of San Francisco.

Resolutions—Samuel E. Watson of Alameda, A. Meister of Sacramento, J. L. Beecher of Stockton.

Some discussion was then entered into as to how the organization should be effected. The opinion seemed to prevail that the State Association should be backed by the county organizations.

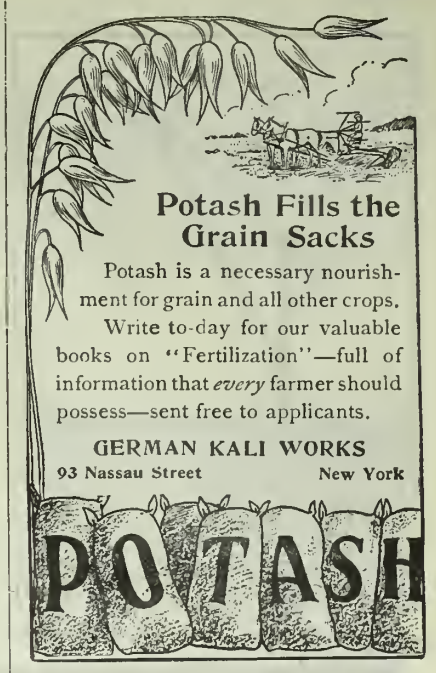
Permanent Organization.—After a short recess the committee on organization recommended that the name of the organization be the State Dairy Association. It is stated that the object of the Association is to secure cooperation between all dairymen for mutual interest. The report called for a board of directors, which is to be composed of one director from each local organization affiliated with the State Association, and three directors at large.

The officers are to be president, vice-president, secretary and treasurer, and are to be elected by the board of directors. The report was adopted.

A motion prevailed to appoint five delegates at large to further the work of the organization, and to report at the next meeting, the date of which will be announced later.

The chairman appointed the following: M. P. Hansen of Humboldt county, A. B. Evans of Fresno, Samuel E. Watson of Alameda, J. L. Beecher of Stockton, J. R. Hebbron of Monterey.

Providence, R. I., March 16, 1893.
Dr. S. A. Tuttle, Dear Sir.—After trying all the remedies suggested to me by my friends, I used three boxes of your Worm Powders, and they did the work. And any one buying three boxes of me, if they do not get a cure I will refund the money.
Yours truly, GAIUS W. HUBBARD.



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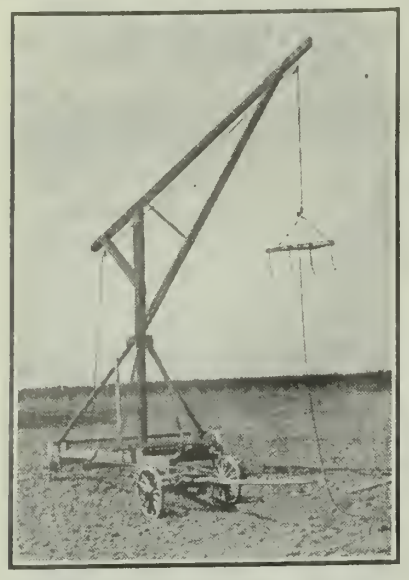
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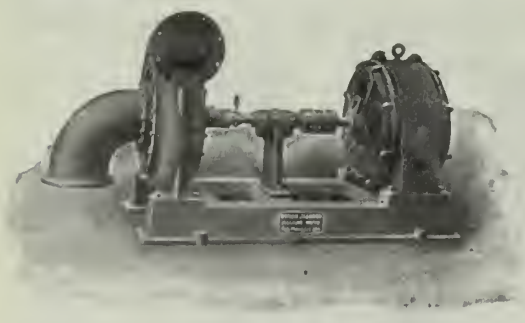
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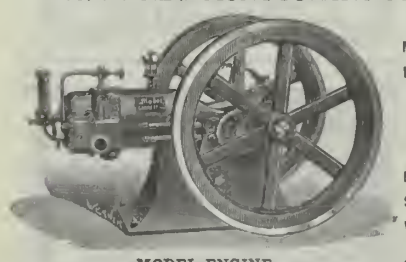
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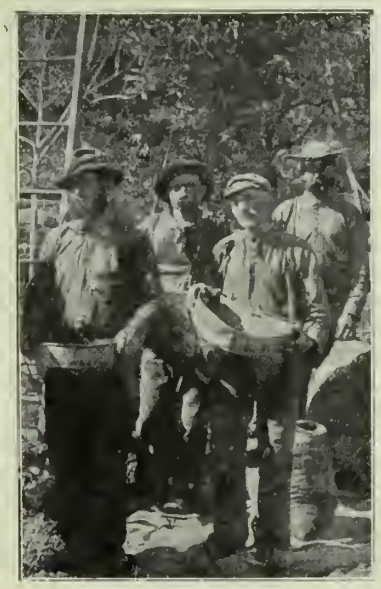
Vol. LXVIII. No. 11. SAN FRANCISCO, SATURDAY, SEPTEMBER 10, 1904. THIRTY-FOURTH YEAR. Office, 330 Market St.

The Olive in California.

We give herewith a number of views connected with the olive industry of California, secured by Dr. G. W. Shaw of the University of California to illustrate a new publication on the manufacture of olive oil, which, because the subject appeals to many people, we are largely reproducing in our columns. The olive was started upon its career in California with too much glamour, and after that was impelled along its course by too great an admixture of nursery and real estate interests. Instead of allowing the production to grow upon the basis of success achieved and mastery of problems demonstrated, the olive was boomed along with the aid of every piece of literature which could be laid hands upon, from the Bible to the productions of the California State Printing Office. Olive trees were carried up the mountains because there was in Judea a small hill called the Mount of Olives. They were spread out upon the desert because the Moors planted them in Algeria, but the planters forgot or never knew that the Moors irrigated them. They were strung along the coast because the Mission fathers grew them there. They were seized upon by people who wished colony schemes on poor land to slide along smoothly. They were proclaimed the easiest thing in fruit growing, so that unwary people all the way from the Holland dikes to the New England hills could be assured that an area in olives of suitable dimensions for a chicken yard would fill their declining years with affluence. If there has been a representation which ignorance and self-interest have omitted in their booming of this fruit in California, we have not heard of it.

The result of the foregoing and of the perfectly honest promotion of the olive which has been done has resulted in so much loss and disappointment that naturally the pendulum marking the popularity of the fruit has swung back too far in the opposite direction, and there now exists a distrust of the fruit and a prejudice against it which is probably unwarranted. If we had been more temperate in the first instance; if we had appreciated the fact that handling the olive is not only difficult horticulturally but in manufacture as well, and if the planting had extended on the basis of actual accomplishment in both growing and manufacturing, the achievement would have brought less loss and disappointment. This, of course, can be clearly seen now, and, fortunately, the olive industry of the State is probably now on a sounder foundation, and, therefore, likely to attain a surer advancement than ever before. To secure the facilities needed thereto and the understanding necessary to make profitable use of such facilities is a most important line of investigation.

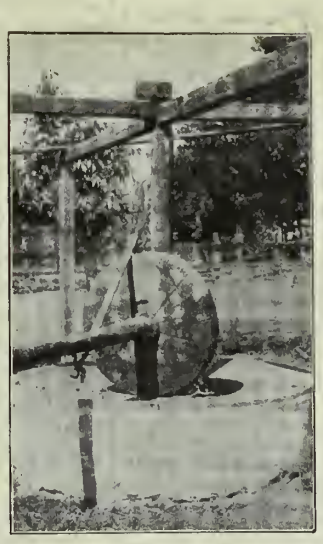
It is also important to bear in mind that the current estimates of the acreage of olives credited to the State are grossly exaggerated, and that the calculations published about the probable output are fairy stories. A considerable acreage of olives has perished from natural causes, another acreage has gone to the wood pile, and another acreage is merely ornamental. There are, however, good olive orchards and probably plenty of them to enter upon the newer and better life which we expect the fruit to attain in this State.



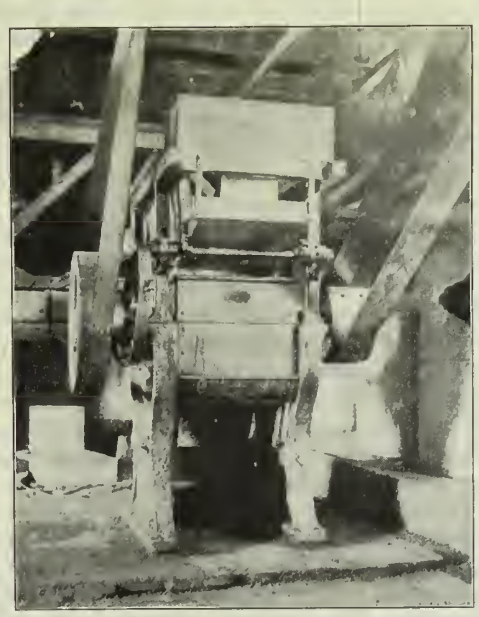
Pickers With Lined Buckets.



Picking Olives With Extension Ladders.



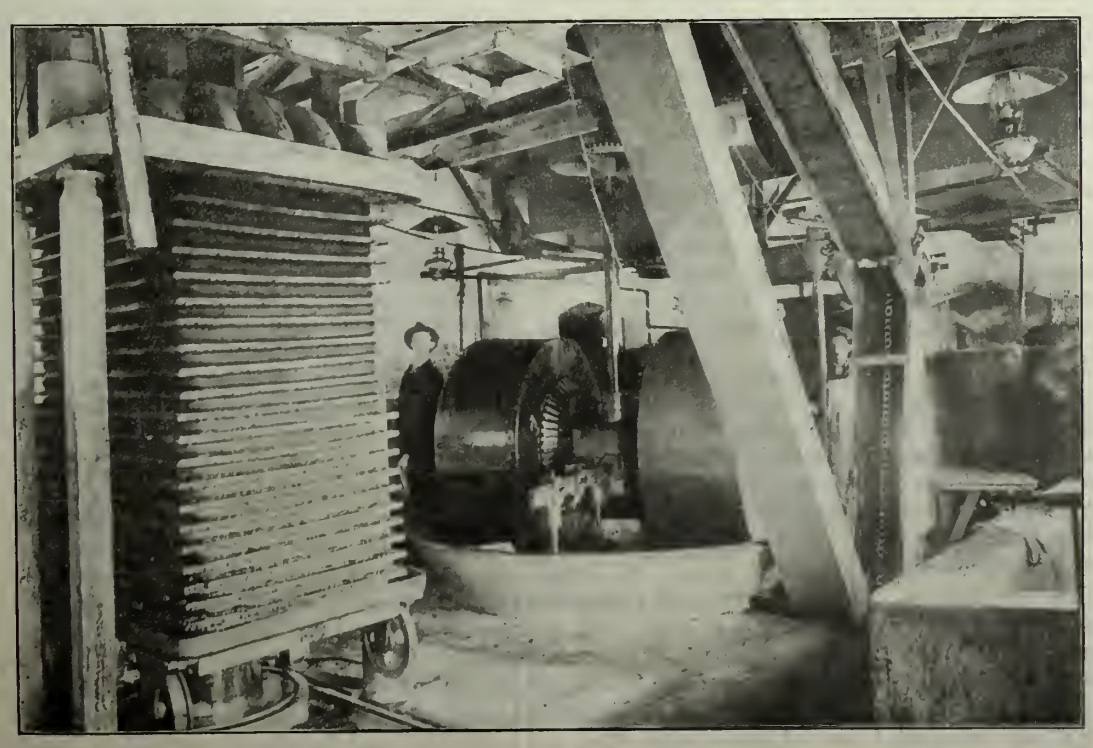
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SAN FRANCISCO, SEPTEMBER 10, 1904.

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The Week.

We go to press just after Labor Day, just before Admission Day and with the Triennial Conclave of Knights Templar doing its most entrancing spectacular things at the very moment. Conditions are certainly unfavorable for connected thought and the facts with which one has to work in agricultural and commercial lines have taken to themselves wings as other forms of riches are reputed to do. The reader, therefore, has to take whatever kind of paper the carrier brings him and be glad he gets anything. San Francisco is certainly doing her utmost to welcome the 50,000 people who are said to have entered her borders this week. The electric demonstration is more elaborate than ever before, and the bunting accompaniments are unique and impressive. The throng of people is too numerous to mention. As one contrasts the general condition of things now with that of two earlier conclaves at this point which we remember, the progress of the city and its advancement along cosmopolitan lines is clearly discernible. San Francisco is going ahead all right, and is thus true to her position as an exponent of the progress of the coast. The demonstration of this alone would be worth all the cost and the effort of the occasion if it should be the permanent asset. It is well to have this impressed not alone upon the visitor, but upon the local resident. San Francisco will surely be great!

The Japanese are apparently advancing fast with their summer's work and it begins to look as though the Russians would be pushed beyond the open country before winter closes in. The Czar to command in person seems to be the last play to hold the confidence of the nation and it certainly looks from this distance as a dangerous, not to say desperate, recourse. One cannot refrain from wondering what change will take place in the world's conception of Russia as a factor in the European situation after she has been knocked out by the Japanese in her imperial calculations on the east coast of Asia. Russia seems to have been as little fitted for her issue as Spain was for hers in 1898. Manifestly thrones are disclosing now the crumbling condition which a century and a quarter of American oratory has attributed to them. And then what of the Japanese and the attack of megalacephalis which they are likely to suffer after their victory? Shall we be able to live with them just across the water from us? Or shall we—but this is too heavy a subject for a week of holidays.

Local produce trade amounts to little this week. Spot wheat is unchanged and options a little easier. Two ships have taken 1000 tons of wheat and 5600 tons of barley in mixed cargoes. Charters are about as before; one ship arrived under charter at 22s 6d. Barley is steady for good shipping and No. 1 feed. Oats are in good demand; fine seed oats being scarce and wanted. Lima beans are higher and pinks are now being boomed instead of depressed. Millfeeds are easy in tone and unchanged. Fine wheat hay sells fairly; other grades drag with large receipts. Beef and mutton are firm and in the unequal demand of the week sometimes go above quotations; hogs are down as packers are idle. Fresh fancy butter is firm; other grades weak. Cheese is heavy except fancy new or fine small. The best fresh eggs are holding up; others are dragging in the issue with storage and Eastern Poultry is unsettled; retailers seem well supplied in advance, but fine young stock is doing as well as last week. Potatoes are quiet, with some going north, but reduction of stocks does not make firmness so far. Onions are barely steady. Most tree fruits sell well, but grapes are in large supply and rather weak. Lemons are steady. Dried fruits and almonds are the same as last week. Foreign walnuts are quoted in New York at 9 to 12 cents; prices here are not fixed yet. There is a fair movement in honey and first grades are firm. Hops are strong. Wool is still very active at country points.

Ships at Northern Pacific coast ports will have a hard time securing the advance of about 12s per ton over last year's figures, for which they stand together—because the northern wheat bids fair to reach its market by rail. It is telegraphed from Portland that unless the present prevailing conditions of the wheat market and rates fixed by shipowners on export business change very materially, practically all of the wheat grown in the Northwest in excess of the mill demand of this region will find its market by rail shipment to Chicago and other points. The usual proportion between Liverpool and Chicago prices has been obliterated. Liverpool prices no longer govern the Chicago market, with the result that, with existing rates fixed by shipowners of England, France and Germany, dealers cannot afford to sell wheat for export at present and the interior markets of this country fix the prices that the growers of the Columbia basin receive for their product. Everything still justifies the position which we assumed weeks ago that California should get in as much wheat as possible this year. It will be good stuff to have in abundance.

The State Fair cost this year about $7000 more than its income, which we are told by the Sacramento papers is less than the directors expected. The State appropriation of $15,000 has been drawn against in settling for premiums and some urgent claims. The State appropriation is not available for the settlement of stakes and purses, and therefore the horsemen will be compelled to wait. The directors have resolved to advertise the race track for sale. It is in the heart of the residence district of Sacramento, and is said to be worth from $65,000 to $75,000 if cut into building lots. A new track could be bought for about $25,000, leaving a balance, after paying for new buildings, of about $40,000. The present debt of the State Fair is $89,000, and it is hoped by the managers of the Society to make a showing that will induce the next Legislature to come to its rescue and put the State Fair on its feet again.

We quite agree with the Call that there is great danger in overestimating the duty of water in irrigation prospectuses, and that it is safer to underestimate this than to do the other thing, but when the Call declares that "experiments, the world over, show that land requires about 3 feet of water during the growing season to produce a crop," we wonder what the Call is thinking about. Of course the amount of water depends upon the crop, upon the nature of the soil and other things, but to make the generalization it does without reservation is to court rebuke. Where would the grain crops of California be if they required 3 feet of water while they are growing. Where would the deciduous fruit crop be if this were the true requirement. The truth, of course, is that good deciduous fruit crops are made on 20 inches if the soil is fairly deep and retentive and well cultivated, and not long ago the Tulare farmers passed a resolution that they could get a good wheat or barley crop on 10 inches favorably distributed through the growing season. The Call's figures of the requirements of a crop are based, although the Call does not seem to know it, upon what is used on the south European "water meadows," from which continuous cutting is made and which are much like our alfalfa meadows which yield from six to ten cuttings—each of which would be a crop in the ordinary use of the term. Of course such intensive farming demands a lot of water for the long season during which a succession of crops is gathered.

QUERIES AND REPLIES.

Canary Seed Growing.

To the Editor:—Can you give me any information in regard to canary seed, where it has been grown in this country, the method of cultivation, the yield per acre, how it compares with that of barley and wheat; also any information you can give me in regard to its cultivation in Sicily, Smyrna and Algiers?—Enquirer, Santa Clara county.

There is very little information available on this subject. The American product of canary seed is so small that it did not attract the attention of the census enumerators of 1900. In the census report for 1880 credit is given to California for the existence of fields of canary seed of considerable size in Santa Barbara and Ventura counties, but no estimate at all is given of the product. At that time the product was occasionally mentioned in our columns, but since that time it has not been heard of, and apparently the growth in California, which there was considerable interest in starting twenty-five years ago, was not satisfactory enough to warrant its continuance. We cannot recollect any figures about the crop, nor find any on record. Concerning the growth of this seed in the Mediterranean region there is little if any more information now available. It is such a small item in the way of imports that it is not mentioned by name in the fullest enumeration of imports which we have been able to find. It must be classed with "miscellaneous seeds." The descriptions of methods of growing the seed in the Mediterranean indicate that its cultivation is practically the same as in the case of wheat and barley with us So far as we can tell at this moment the only way to determine the profitability of the crop in California would be to undertake a small experimental sowing of it. Perhaps some reader can supply more definite information about the earlier undertakings in this direction.

Agricultural Education.

To the Editor:—I have had a grammar school education and am married and 28 years of age. I am at present running an engine and not at present in condition to take a continuous course at Berkeley, but I hope to be in the near future. I have taken a deep interest in agriculture and wish to study it and concentrate my energies upon it as a business. Can you tell me what I can do toward that end?—Enquirer, Oakland.

It is possible for you, if you can attend the University regularly, to enter as a special student and take anything you desire in the Agricultural College for a longer or a shorter period, as far as you are prepared for it by preliminary experience and studies. Some subjects you could take up at once without preliminary preparation, as they are taught from the beginning; others, like agricultural chemistry, have to be preceded by the course in general chemistry. It may be said, however, that all the practical lines which men follow on farms can be studied without preliminary preparation, so far as the University is equipped to teach them. To get regular admission to the University and to be on the way toward regular graduation, however, requires satisfactory completion of a high school course. It would be a question whether it would be desirable at your age to undertake regular entrance and graduation, although it has been done by many older than you. There will also be short courses given this fall: In dairy science and practice from October 11 to December 9; and in general agriculture, horticulture,

viticulture and animal industry from October 25 to December 9. These, however, require residence in Berkeley during the period named. If it is not possible for you to attend regularly at Berkeley, you could proceed with reading and correspondence courses, and Mr. W. T. Clarke, who has charge of that work at Berkeley, will furnish full information about them.

Alfalfa Outlook.

To the Editor:—I wish to ascertain the local conditions in your State that have to do with alfalfa, viz., the cost of labor, the situation, extent and stability of the market for the hay and its seed, and the cost (of course, only approximately) of land that is reasonably certain to produce a good yield of this hay.—Enquirer, Chicago.

Concerning the matters mentioned in your communication, it is difficult to give definite data. The cost of labor (continuous service) is about $30 per month and found. Transient labor is worth, on the average, $2 per day. Concerning the outlook for alfalfa hay and alfalfa seed, only a prophet would be capable to speak. It may be said that, although the acreage of alfalfa and tonnage of alfalfa hay has increased very rapidly during the last few years, the crop has been profitably disposed of and at present there is a good prospect for the continuance of such conditions. Fortunately, the extension of the dairy interests has attended the increase of alfalfa acreage, thus creating a demand for the enlarged product. We expect the development of the live stock interest in all its branches will proceed and act in the same way upon the possible hay supply. The value of good alfalfa land under an irrigation system is at the present time about $75 per acre. There is some which can be had at less price, and other of similar quality is worth more, owing to proximity to settlements, railroad facilities, and other conditions which generally affect land values.

Distressed Apple Tree.

To the Editor:—Inclosed you will find some apple wood and leaves. They are not the right color and the tree has made no growth to speak of this season. It bore some fruit, but it is under size. The soil and moisture conditions I know are right by other trees near by.—T. G. H., Wadsworth, Nev.

Unfortunately, the specimens do not show the cause. They simply indicate that the tree has been in distress for at least three years. This year it has made practically no new growth; last year it was about 1½ inch; the year before about 2 inches. There is no sign of pest or disease. The trouble is, therefore, farther back. If the tree is of a different variety than other apples adjacent which are doing well, then it may be the variety is not adapted to your conditions. If you have other trees of the same variety doing well, the trouble is in the soil of the particular spot where that tree stands, or something has cramped or destroyed its roots. Cut back well and manure well, and see if you can force better growth next year.

Failure With Alfalfa.

To the Editor:—As I wrote you some time ago, I have 20 acres in California, and early this year I had alfalfa sown, with a barley crop, and am now informed that the alfalfa turned out a failure. I would be glad to know whether alfalfa fails to "hold," as we call it here in the East, unless there was some carelessness about sowing or caring for it. I know it must have been irrigated for I received a bill for water. I am most disappointed, not for the money value, but the loss of a year's time, and before I have anything further done want to know whether the right thing is being done or not.—Owner, New York City.

It is undoubtedly true that alfalfa on a deep soil with adequate drainage and sufficiently irrigated holds well and may be profitable for twenty years or more. On the other hand, alfalfa may fail, becoming scant in its stand and short lived if the soil is too shallow and moisture irregular. It is, of course, true that one can fail to get a good stand of alfalfa in the first instance by careless seeding, or by lack of moisture at the proper time, and it is usually considered vastly better to sow alfalfa by itself than undertake it with a barley crop, which, by satisfying its own thirst for moisture, is quite likely to destroy the alfalfa before it has opportunity to become deeply rooted and independent. In your case there seems to have been an error in trying to combine the barley and alfalfa and in possibly refraining from irrigation for the sake of the barley crop, although the alfalfa needed it. Alfalfa is such a valuable crop that it is worth while to give the fullest attention to the preparation of the land for even distribution of the water and to the most perfect cultivation and careful seeding in order that the even stand may be secured at the beginning.

Electrocution for Ground Pests.

To the Editor:—In the Success magazine for September I noticed a short article stating where one M. Hugo Helberger, a Bavarian, has discovered that a current of electricty passed through the soil renders it untenable for insects. When reading the article it occurred to me that possibly this would open up a way for fighting pests that prey upon the roots of fruit trees and vines; perhaps make it possible to fight the phylloxera on grape vines. By applying a current to the soil at the root of the vine the phylloxera might be driven to the surface where they could be killed by some spray.—G. M. B., Mendocino county.

This is not a new suggestion. It was proposed years ago and a certain amount of experimentation pursued, but without success. Possibly the Bavarian has learned how to do it; possibly the publication only indulged in a view of what he hoped to do. If the current renders the ground "untenable" perhaps the current could be increased so as to kill the pest in his tracks. The whole proposition is a good one to those who delight in experiments and can afford to indulge in them, but it is not one which a man with small means has any right to simian with.

The Lemon House that Thomas Yost Built.

To the Editor:—In your issue of March 8, 1902 (March or April), you published a picture and an article describing a lemon house just completed by me. You also stated that you would like to know about the success or failure of the arrangements after trial is made. I have just paid a visit to the old place and made an examination of the lemon house. It proves to be a successful lemon keeper. I found that in October, November and December of 1903 1300 boxes of lemons had been placed in the house, and that up to August 1st twenty boxes of spoiled lemons had been taken out, and at that date the last of the 1300 boxes were sold. I have now some sound, perfect lemons (stems all on), that have been in the house twelve months. We are pleased to be again in the land of fruit and flowers.—Thomas Yost, Fresno.

We are glad to hear of the success of the lemon house which we illustrated and described quite in detail in the issue which Mr. Yost mentions. We are glad also that Mr. Yost has returned to California after touring through twenty-five States and taking a couple of years to find something better than California without success.

Grinding Alfalfa.

To the Editor:—Will you let me know what kind of machinery is needed to grind alfalfa so that it can be fed to poultry without being steamed, also where such machinery can be purchased and at what figure? —Subscriber, Healdsburg.

As we understand it, the grinding of alfalfa is only done by a company with headquarters at Fresno, and is undertaken for the purpose of preparing a proprietary product which they desire to sell. We presume they have learned their own process from experimentation and have devised or adapted machinery to do it to the best advantage. We have not heard that the machinery is offered for sale; if so it should certainly be made known in our advertising columns. We imagine that the grinding requires a pretty good outfit and probably can only be done to advantage in a well equipped establishment and not on the farm plan. If this is so, and the projectors expect to serve our poultry feeders, they should make the facts known in advertisements.

Tomato Disease.

To the Editor:—Lately the leaves on my tomatoes turn black, wilt and die; the fruit which is nearly ripe turns dark also. The vines are strong and vigorous, rich sandy loam, plenty moisture; seem to be the worst where the vines are the most thrifty. Have a number of varieties, some very choice; no difference. What can I do to save the sound ones? I have quite a crop.—Inquirer, Santa Cruz county.

This is a bacterial disease and exceedingly difficult to arrest. The soil may be full of the germs and they may reach the plant by way of the roots; at the same time there may be carriage of the germs by insects which go from the diseased plants to the healthy. Dissemination of the disease is sometimes checked by killing off the insects and spraying with kerosene emulsion, or some other insecticide which will not injure the foliage will do this. You should plant your tomatoes on fresh ground next year and use the infected ground for corn or some other cereal.

Olive Grafting --- Salt Bushes.

To the Editor:—Where olives are unprofitable can any other fruit be grafted into the trees? Is the Australian salt bush a success on alkali soils?—Reader, Brentwood.

It is not possible to graft any other fruit tree upon the olive. The salt bush grows on soil which is too alkaline for other plants, but there is some question as to the value of the forage, because all kinds of stock do not readily eat it. Sheep and poultry take to it very freely; cattle sometimes dislike it, so that they lose condition upon it; consequently we do not strongly commend it for cattle feeding, although it is exceedingly nutritious and capable of sustaining them well when they are satisfied to live upon it.

WEATHER AND CROPS.

Report of the U. S. Weather Service for Week Ending September 5, 1904.

Alexander McAdie, Forecast Official and Section Director.

Sacramento Valley.

Clear weather prevailed most of the week, with high temperature at the close. Conditions were very favorable for fruit drying and the warm weather caused a rapid ripening of the grape crop. Grape picking is progressing rapidly and heavy shipments are being made to the wineries and markets. In many places the yield is reported the largest for several years and the grapes are of better quality than usual. Peaches and pears are nearly all gathered and prunes are coming in freely. Prunes are yielding nearly a full crop in some sections and about two-thirds the average in other places; the fruit is generally of excellent quality. Almonds are yielding a fair crop in some sections and light in others. Citrus fruits are in excellent condition. Hop picking and baling continue; the crop is large and the quality excellent. The grain and hay crops are under cover and some shipments are being made.

Coast and Bay Sections.

The weather was generally clear and warm during the week along the northwest coast, where heavy fogs prevailed. The temperature was high in the central and southern districts nearly all the week, causing a rapid ripening of fruits and grapes. Fruit drying and grape picking are progressing. The prune crop is reported lighter than expected and peaches are below average in some places. Grapes are yielding an unusually large crop in nearly all sections. The second crop of figs is ripening at Cloverdale. Citrus fruits, walnuts and almonds are in good condition. Hop picking is in progress in San Benito and Sonoma counties; the yield and quality are very good. Bean harvest has commenced in San Luis Obispo county and the crop is reported lighter than last season's. Bean canning is progressing in Lake county, where the crop is large. The hay crop is nearly all baled and the grain crop is disposed of. Hay has yielded the best crop for several years, but grain is below average.

San Joaquin Valley.

The clear, warm weather during the week was very beneficial to late fruits and raisins. Fruit drying and raisin making are progressing rapidly. The grape crop is large and of excellent quality; the raisin crop having a large percentage of sugar. Tokays are going to market in carload lots and wine grapes are nearly ready for the crusher. Prune picking and drying are in progress; the crop is large in most places and of excellent quality. Late peaches in the vicinity of Stockton are said to be a failure. Other deciduous fruits have yielded fair crops in most sections, but are generally below average. Almond harvest is well advanced; the crop is very light in the vicinity of Lodi. Oranges at Porterville continue in good condition and a large crop is probable. The fourth crop of alfalfa is of excellent quality and the yield is large. The recent rains in the mountains were beneficial in replenishing the canals and furnishing a plentiful supply of irrigating water.

Southern California.

Hot, dry weather prevailed during the week and conditions were favorable for raisin making, fruit drying and bean harvesting. Grapes are yielding an unusually heavy crop, especially in the irrigated districts, and the quality is excellent. The deciduous fruit crop is considerably below average. Citrus orchards are looking well, in section where water is plentiful, but present indications are that the crop will be lighter than expected earlier in the season. Walnuts continue in good condition, but the crop will not be as large as anticipated. Sugar beets at Santa Maria are above average. Bean harvest continues and the yield is generally below average. The honey crop at Riverside is a failure. Late planted potatoes are making good growth. The recent rains saturated the soil in the foothill and mountain districts and all streams are running.

Los Angeles Summary.—Hot, dry week good for bean harvest. Citrus orchards look well, but the indications are for a light crop of large size fruit.

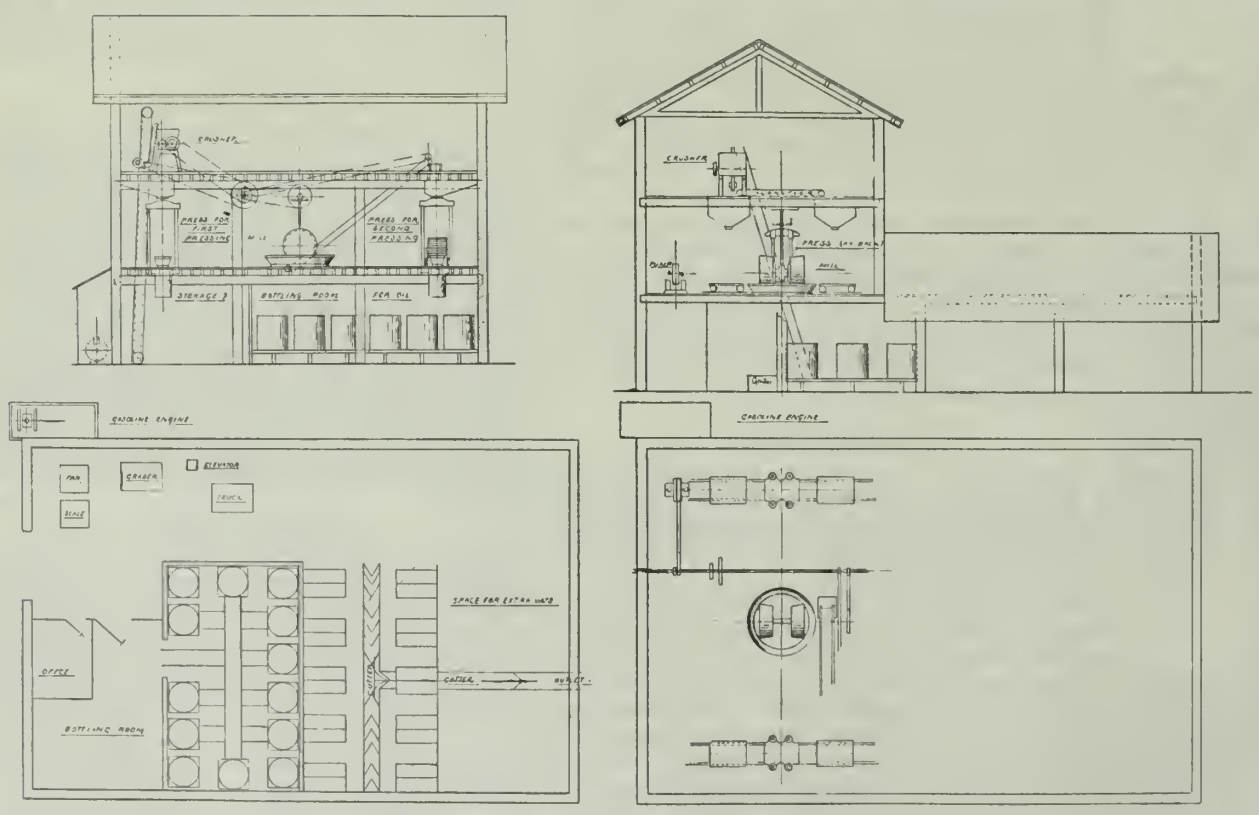
Eureka Summary.—Cloudy and foggy throughout week. More hay being baled than any previous year. Bugs still doing much damage to peas on bottom lands. Some blight in potatoes.

HORTICULTURE.

Olive Oil Making in California.

In our last issue we gave the introductory paragraphs of a University Bulletin on the manufacture of olive oil by Dr. G. Shaw of the University Experiment Station. Herewith we continue Dr. Shaw's narrative, accompanied by drawings of a model olive oil mill which involves the features which his examination of mills existing in this State leads him to commend:

Location of the Mill. — It is presumed that parties contemplating the establishment of a mill will duly consider the suiting of capacity of mill to the supply of raw material that can be obtained at an equitable price and within easy distance. It must always be kept in mind that everything which can reduce the cost of handling and manufacture, so long as it does not reduce the quality of the product, counts for success, and a poor location of the mill either with respect to handling the crop or marketing the product may be the very thing which militates against success. The grower must realize a fair profit upon his olives or the supply of raw material will gradually dwindle. It is probable that under ordinary conditions of crop the grower must realize not less than $20 per ton for the olives over and above the cost of picking, which may generally be considered as ranging from $8 to $10 per ton. At present the ruling price of olives is from $25 to $45 per ton, depending largely upon quality and variety. Strictly first-class pickling olives even bring as high as $65 per ton. Since the recovery in oil making does not exceed about 50% of the oil in the olives, under these prices the oil in the raw state will cost from $1 to $1.25 per gallon. It is to be understood that the highest price is that offered for pickling olives without grading, and that these are graded after purchase; thus the oil olives resulting from the grading of the pickling olives are purchased at a relatively high price, probably under these conditions sufficient to bring the price up to $40 per ton, where $30 is the ruling price for exclusively oil olives.



Detail Drawings of a Model Oil Mill.

The location having been considered with reference to olive supply and transportation, attention should be directed to the water supply, especially if pickling is to be coupled with oil making; and this must be recommended as the only feasible method in this industry. Only the purest water should be used in the preparation of olive products. The water should be free from excessive quantities of mineral salts and should especially be free from organic contamination and odors of all kinds. The supply should be bountiful and should be introduced into the building through large pipes tapped at several places convenient for work. The main pipe should be of sufficient size and the pressure adequate to permit the water to be drawn simultaneously at several points without materially interfering with the flow at any one.

The Building.—This need not be large, yet should be sufficiently roomy to allow ease and facility in work. Inasmuch as the presses and mill are of considerable weight the building should be solidly constructed where the weight of these machines is to be supported, and if the location is such that there can be a ground floor and basement the mill is best placed upon the ground floor, using the upper part of the building for the crusher, the ground floor for the grinding, and the basement for storage and bottling. The upper floor need extend over only a portion of the building, or be only a partial floor, upon which would stand the crusher only, where the operation is to be conducted upon a more limited scale. According to capacity of the mill and pickle works and its location, the building may be estimated to cost in the neighborhood of $1000 to $3000.

By centralizing the work more labor-saving machinery can be employed, as has already been found quite feasible in some mills in the State, notwithstanding the somewhat widespread idea that the oil is seriously injured by such an innovation. The only thing needful under these conditions is to have the arrangements as simple and easy of cleaning as possible, and to exercise the same degree of cleanliness and care as is exercised in a modern creamery, for without such care and cleanliness it will be found impossible to make an olive oil which will stand the test of trade.

A general idea as to several arrangements which have proven and are likely to prove successful and convenient may be had from the subjoined line drawings, showing elevation and floor plans, which are commended where labor-saving devices are to be introduced.

Arrangement of Machinery.—The arrangement of the machinery in the factory is a matter of extreme importance in the way of economy of labor, and the larger the capacity of the mill the more important does this factor become. A certain prominent mill in this State employed during one season thirty-three men working twenty-four hours per day (two shifts) for the making of about 500 gallons of oil. By the introduction of more modern machinery and adopting a more systematic arrangement, the management was able to reduce the number of men to eleven and the hours to twelve for the same amount of oil—a material saving which should go toward the profit in manufacture. Many mills are still so inconveniently arranged as to require a large amount of hand labor in shoveling and carrying the olives. By the introduction of link belt elevators and carriers, practically all of this hand work in transferring olives and pulp can be done away with, and by a proper arrangement of tanks and the introduction of pumps much of the hand labor in transferring the oil can also be saved.

A very practical and modern arrangement of trash-blower, elevator, crusher, and elevator leading to the first press is shown in the illustration on the first page of this issue.

Picking the Fruit.—The making of olive oil really begins with the gathering of the fruit. Whether olives are to be used for pickling or for oil making, it is very important that they should be picked carefully, at the right time. The largest quantity of oil possible from the olives is obtained from the ripe fruit, but the very highest grade is obtained from the fruit picked while it is still hard, but sufficiently ripe to allow the pit to be squeezed out without carrying away any of the flesh with it.

One can not be wholly governed by color to determine the proper time of picking, for in some cases the olives may become quite dark before the proper condition is reached, but again the fruit may still be quite green in color.

For whatever purpose the olives are to be used they must be gathered by hand. Raking or whipping the trees should never be allowed, not only for the sake of preserving the fruit buds on the trees, but also on account of the bruising of the fruit and the consequent liability to fermentations being set up before the olives can be worked. The bruising of the fruit opens the way for the growth of fungi which ruin the good qualities of the oil, and every precaution must be taken to prevent such bruising. The olives must under no circumstances be poured from any distance onto a hard surface. One of the most convenient receptacles for the use of pickers is a padded bucket, the tops of trees being reached by means of the Titus ladder, both being shown in illustrations on the front page of this issue.

Nothing is more conducive to systematic and economical handling of the fruit than a well-arranged place for receiving and weighing the fruit as delivered. A well-devised systematic record of the fruit received is conducive to a perfect understanding between the grower and the packer or mill, as the case may be.

Grading.—The grading of the olives should be done as soon as possible after receiving them at the mill, the object being to separate those of the proper size and condition for pickling, provided that branch of the industry is followed. For this operation there are numerous machines in use, but there are few really satisfactory ones. Most of the graders bruise the fruit to such an extent as to injure it for pickling. One of the most successful is the so-called "Garvin grader," the olives destined for pickling being allowed to fall into buckets partly filled with water to break the fall as they come from the machine. The grader at the same time removes much trash from the olives, the removal of which may be finished by the use of a blower. An ordinary fanning mill, such as is used for cleaning grain, is also occasionally used for the removal of trash.

For the making of oil the olives should be washed before crushing, in order to remove adhering dust or dirt, lest this impart a disagreeable flavor or appearance to the resulting oil.

The Development of Fruit Buds.

The late Prof. E. S. Goff of the Wisconsin Experiment station investigated the formation of flower or fruit buds on fruit trees. The main object of the investigation was to be able to tell at what time flower buds are formed and what kind of special treatment will effect such formation.

Summer Fruit Buds.—The first flower buds were taken June 1 from the apple, pear, cherry and plum, and thereafter every ten days to make complete series. These buds were prepared in the usual method employed by botanists for making microscopic sections. Many excellent drawings were made from sections taken from the buds at different stages of development, showing the complete morphology of bud formation.

In the year 1899 the first evidences of flower formation in cherry was from buds cut on July 11. In plums the first evidences of flower-bud formation was July 8; in apple from buds cut June 30 and in pears from buds cut July 21. This seems to show that the beginning of the development of flower buds follow the season of most rapid growth and continues until interrupted by low temperature in the autumn, at which time the buds are well developed and ready to be unfolded with the warmth of spring. It was found that the development of the flower bud of the previously-named fruits ceased to develop some time during October.

Fall Fruit Buds.—Among all flower buds of apple, cherry, plum and pear, taken up to October 30, there was no positive evidence that the ovules were formed, though indications of slight swelling could be noticed of flower buds from the plum. In one or two cases there were indications of pollen formation—possibly the formation of pollen mother cells.

Flower buds of raspberries, blackberries, currants, gooseberries, strawberries, apricots and grapes were also prepared and examined during the latter half of October for comparison. Among these the currant and strawberry flowers were well developed, showing both stamens and pistil, but no ovules, while in the gooseberry the ovules were plainly visible.

It should be stated that the fall of 1900 was a very favorable one, and that the development of the floral parts in the buds probably reached an unusually high stage of development, which would not happen if the season had been less favorable. The investigation was continued during the winter and spring of 1901, in order to discover what changes, if any, took place during the winter and at what time the development in the spring started. There was no activity apparent in the buds from the freezing weather in the fall until after the middle of March. About this time there was evidence of swelling, which proceeded as the temperature increased. A sudden change in temperature does not immediately arrest the devel-

opment of flower buds, though the effect tends to check it for a relatively longer period.

Summary.—The summary of this investigation is best given in Prof. Goff's own words and follows herewith:

"The anthers of cherry or apple did not begin to swell perceptibly until after the maximum temperature had reached 70° F. The pollen mother cells in the plum and cherry underwent some changes before the temperature had exceeded 50°.

"The embryo flowers appeared in the cherry and plum the past season very slightly earlier than they appeared in 1899. In the apple and pear the date of the first appearance of the embryo flowers the past season was not surely determined.

"Embryo flowers sometimes form in the apple and pear in September, as well as in July. The summer and autumn periods of flower formation may be distinct. The late-formed flowers in the apple and pear may produce, alone, a good fruit crop the following season.

"The 'side buds' that developed the past summer on fruit spurs of the apple that flowered last spring formed embryo flowers in several varieties before the middle of October.

"The embryo flowers began to form in a tree of the Bokara peach in our station orchard about September 14 the past season.

"In the Clyde strawberry the first indications of embryo flowers appeared September 20. In the rooted runner plants the flowers appeared at about the same time as in the parent plants.

"Partial defoliation of the buds in the pear on July 5 hastened rather than retarded the formation of the embryo flowers. In the plum and cherry partial defoliation of the fruit spurs just as the embryo flowers were commencing to form did not prevent their forming, but slightly reduced their size.

"The embryo flowers commenced to form in the peach and strawberry with the advent of cool nights in September.

"Flower buds probably do not often, if ever, revert to flower buds.

"Flower buds are apparently not structurally different from leaf buds.

"In the apple a bud may form flowers the first, second and third season, or even after that. If unduly shaded, it may never form flowers. In favorable seasons for flower formation, many of the buds formed that season, and nearly all of those formed the preceding two seasons, that have not already flowered, will become flower buds; an excessive apple crop results, which is necessarily followed by a light one, because the supply of reserve buds is exhausted."

THE VINEYARD.

The Re-Establishment of Vineyards.

By Bismarck Bruck, St. Helena, at the last meeting of the California Viticultural Club.

I have, in persuance of the request of the president, made a written report, setting forth briefly what we have done in re-establishing our vineyard on resistant roots, results obtained, and the few things we have learned about adaptation, affinity and grafting. In this report there is nothing but that which has come under my own observation during a period of twelve years, in ten of which I have been able to see and watch the results of my work on one place—the Charles Krug vineyards, now owned by James Moffitt.

Stocks Used.—We have used principally three resistant vines in these vineyards—Vitis Riparia (unselected), Lenoir and Rupestris St. George. I will confine myself to these three varieties, although one, the Vitis Riparia, would be more properly termed specie, as unselected cuttings of many varieties were used.

Riparia.—I will first take up the Riparia. This vine was at first planted very extensively in Napa valley, but did not prove altogether a success. The vines were planted everywhere and in every soil, and we soon discovered that they would flourish only on rich alluvial soil. In many instances, even before grafting, the Riparia died out when planted on poor or gravelly soil, or in hot localities. We have now about fifteen acres growing upon rich, well-drained ground, grafted to Sauvingnon Vert and Johannisberg Reisling, grafted about ten years ago, and they are now among the healthiest and most vigorous vines we have, proving conclusively to me that if the Riparia be planted on the proper soil it will do well, and particularly so if the varieties are selected, and only such as Riparia Gloria Montepelier and Grand Glabre are used. We have also noticed that all viniferas do not do well when grafted on Riparia. I will speak of that later.

I will now take up the Lenoir. We have about twelve acres of Lenoir grafted to Golden Chasselas, Burger, Semillon and Carignan. They were grafted six years ago on three-year-old roots, planted on fine rich soil and heavy moist clay. They seem to do equally well in both places. They are strong, vigorous vines to-day, and bear good crops. As with the Riparia, some varieties of vinifera do better than others when grafted.

Rupestris St. George.—The Rupestris St. George was first planted in Napa valley about 1897, and very extensively in 1898 and later. We imported our first cuttings from France in the spring of 1898, and in 1900 we sold in the neighborhood of 500,000 cuttings. With the Rupestris St. George also came the method of bench grafting, which had been practiced but little, if at all, in California up to that time. In the spring of 1898 we bench grafted about 1000 Rupestris St. George cuttings. Owing to the condition of the cuttings and our inexperience with bench graftings, we succeeded in getting only about 25%. These were planted on heavy moist soil and are still doing well. The following spring we grafted 3000 St. George cuttings to Burger and Chasselas, receiving from same 1700 good unions, which were planted in April, 1900, on high, dry ground, with gravelly top soil, but good subsoil. They are now in their sixth year, are showing strong and vigorous growth, and have been bearing good crops for two years. In the spring of 1900 we bench grafted 12,000 cuttings, receiving 70% of good unions. These were used in replanting places where the Riparias had died out and have done very well, considering that they were placed among old vines. Since 1900 we have bench grafted from 10,000 to 12,000 Rupestris St. George cuttings each year with varying success, getting as high as 75% of good unions, and, in some cases, as low as 45%. Last year we planted about 3000 rooted bench grafted cuttings on friable, but dry soil, and this year they are to the top of 5-foot stakes and with grapes enough to pay for the picking. They are grafted with Chasselas and Sauvingnon Vert. This year we have grafted about 20,000 Rupestris St. George cuttings and will, from present indications, receive about 75% of good roots.

We have now in our vineyards Rupestris St. George from the age of one year to seven, and they are all doing well, but we find that they do best on rich, well-drained soil, and this I think is the case with all resistant stock. Some of them do well on poor soil, but they all do best on rich, moist and friable soil. We have practiced bench grafting almost entirely in the past five years, and our experience has proved conclusively to us that it is the most economical, the best and the quickest way to secure a good and uniform vineyard on resistant stock. In field grafting we have found we can secure the best results by grafting early in the spring—March and the first two weeks in April.

Conclusions.—From an experience of over ten years with both resistants and viniferas under different conditions and with different soils, I have arrived at the following conclusions: First, that the resistent stock should be adapted to the soil and locality; next, the proper affinity should exist between root and scion, to secure the best results. I find that the Johannisberg Reisling and the Sauvignon Vert, with viniferas of like character, that make a long slender growth with small trunks, do well on Riparia, while the heavy wooded vines, such as Golden Chasselas, Carignan or Burger, do not do so well on Riparia, but show better results when grafted on the more vigorous resistants, such as Lenoir and Rupestris St. George. Some viniferas, however, seem to do equally well on Riparia, Lenoir or Rupestris; but others do not. Which is best can be learned only by experience and close study, and is one of the problems that the viticulturist will have to solve in order to successfully grow a resistant vineyard. He also must learn just what kind of resistant roots will do well and adapt themselves to certain conditions and certain soils. I have found that the Rupestris St. George adapts itself more readily to different soils and different conditions than other resistant roots, but do not advise planting them indiscriminately, as with a little care and study one should be able to determine the resistant root that is best adapted to the soil and conditions in the locality where the vines are to be planted. As far as our own experience goes we would advise as follows:

Plant Riparia only on cool, well-drained soil; plant Lenoir anywhere that Riparia will thrive, and it is best stock for heavy, wet or clayey soils; plant Rupestris St. George or St. Martin on well-drained soil and it will thrive in dry, hot localities, where it would be unwise to plant either Riparia or Lenoir.

Other Vineyards.—Just a few words about other vineyards. Ewer & Son have confined themselves almost entirely to Lenoir stock. The yineyard is planted on fine, rich, alluvial soil, and the vines are looking strong and vigorous. Another neighbor, after several years attempting to grow Riparia on high, dry, gravelly soil, with repeated failures, finally planted Rupestris St. George, a d now has a fine healthy young vineyard, some of which is in bearing. This, to my mind, proves conclusively that most of our failures in trying to re-establish vineyards are due to improper selection of both resistant roots and vinifera grafting stock.

Discussion.—The reading of Mr. Bruck's paper gave rise to a conversational discussion, in which a number of the vineyardists present described their experiences with the different resistants and viniferas, as reported by the Wine and Spirit Review:

John Markley (Geyserville) said that on his place, about 30 miles west of the Charles Krug estate, he had been making experiments, and his conclusion was the same as Mr. Bruck's—the better the land the better the result. Rupestris St. George had done well on drained soil, but his experience taught him it was unwise to plant St. George on hilly land with clay within 2 or 3 feet of the surface. Some Burger which he had planted had a very heavy crop of grapes on it, and Golden Chasselas also had a very fine growth.

Frank Swett stated that in Contra Costa county he had grown Lenoir, which prospered very well for a time, but afterwards died out, probably because of oak tree roots.

E. W. Putnam told the meeting of a vineyardist who has a flourishing growth of Lenoir near Mission San Jose. It is about three years old, the grafts being two years old. It is in rich black soil. Rupestris St. George did well in this district, but not so well as Champini, which was more successful in this locality than any other variety.

Professor E. H. Twight said that in the south of France Champini lasted five years and then died from phylloxera. Leopold Justi explained that Zinfandel made an excellent union with Lenoir, taking very well. This was with field grafting. Mr. Grundel said that Mataro grafts on St. George broke off.

THE STOCK YARD.

The Live Stock Breeders' Convention.

In our last issue we gave an outline of the first day's proceedings of the Live Stock Breeders' Convention at Sacramento, the second day's work falling too late for publication. We expect in due time to have the full text of some of the addresses; meantime we conclude the outline with the review prepared for the Union of Sacramento.

During the second day Mr. C. D. Pierce of San Francisco presided. Robert Ashburner was the first speaker and his subject was "The Farmer's Cow." She must have good feed and plenty of it, and her surroundings should be of the best. More breeds have been spoiled by promiscuous breeding than by any other cause. He believed in selecting and sticking to one breed. The bulls must not only be good animals, but trace back to good stock. Cows of good quality are always economic ones. He has been thirty-seven years a breeder and his herd is wholly home bred. The young farmer must have a standard and weed out of his herds all failures to reach the standard. If a herd is not getting better all the time, it is getting worse.

A paper on the same subject by E. S. Waggenheimer was read by Professor Major. In selecting stock one wants the animal that produces the best at least cost. Holsteins, Jerseys and Durham breeds are most generally selected by cow farmers. The Holsteins are good feeders and do not have to be housed in winter. Jerseys are quiet and have more butter fat in the milk. They do better when housed in winter. Durhams give a good flow of milk and milk longer than others. They are good hustlers. The best all around cow is a cross of Holstein and Durham. He has tried all kinds of stock and Jerseys do not meet with his favor.

The average return from a cow is between $50 and $70 a year in butter fat. Count calf and other things and the net profit on a cow is $35 a year.

A voice: "That man values low when he values a calf at $5 and skim milk at $5."

Professor Major said he did not believe Durhams to be best and longest milkers, with a fair test, as claimed by Mr. Waggenheimer.

California Live Stock Conditions.—Professor E. W. Major, University of California, said stock conditions are like climatic conditions. "In California you have any climate you want and better than in any other State. So you have as to stock." Meat cattle, as a rule, do not come into California in as good a condition as in the Chicago market.

In breeding stock California has a great future for beef cattle. Our people are demanding better beef and breeders are recognizing it, and so pure bred stock for beef is coming on.

So, too, as to the dairy herd. Our dairy herds are not all they should be. Plenty of herds, however, go to 300 and 400 pounds, but the average in California is only about 140. Think of the difference.

If it were not for ample feed, good pasture and mild winters, California dairymen in many cases would go bankrupt. There is no profit in a 140-pound cow.

The question of feed is a big one. Wheat and cattle or wheat and sheep, in all this great Sacramento valley, should be raised together. As a rule, our mutton of the markets is not of the best, and must be improved.

So, too, as to pork. It is low grade in California in too many cases, because best methods of feeding are not employed, for one thing.

Hog raisers must be educated to the value of fine breeds and good feed. There is no reason for pork being sent to us salted, to be cured here.

We do not give attention sufficiently to raising good

draught horses. That raising can go on with farm work. There is no reason for us sending to Oregon and Washington for draught horses or coach horses.

Poultry Culture.—Heury Benar read a paper on "Poultry Culture as a Leading Industry." Here it is spoken of as an infant industry, he said. It is insignificant compared with the magnitude it will attain. California last year raised $5,000,000 of poultry and 35,000,000 dozen eggs, and yet large shipments come from the East. There can be no overproduction in the industry for many years. No poultry man ever fears it.

No industry to small investment gives such large returns as poultry raising. About all failures are due to ignorance, or failure to work and to establish cleanliness. It is not hard work, but is persistent and insistent upon cleanliness. Women can conduct the business as well or better than men. There are more people directly in poultry culture than in any two other live stock interests combined.

Petaluma and vicinity produces more chickens and eggs than any similar area in the world. Breeding for higher selection is essential and it is prosecuted generally in California. Thoroughbred poultry stock gives far better returns than any other. No other place in the world produces finer varieties of poultry than California. At Buffalo's exposition in competition with the world California birds carried off the honors and premiums.

Thousands of dollars are sent here from the East to buy samples of fine birds to improve Eastern stock. California's wonderful climate gives her advantages for poultry equalled by none, and because of it California is bound to control the Pacific export market.

Our birds ship better to foreign parts than do Eastern birds, and this is a very important fact in our commerce. There are from 800 to 1000 birds of high quality at the State Fair, notwithstanding the fact that the fair is held at the moulting season of the birds.

He thanked the State Board of Agriculture for its liberal offers of premiums for high-class poultry. California birds are to go to the St. Louis Exposition in October, and he predicted that they will carry off a large share of honors and prizes.

A voice: "Why, then, is there such a demand for Eastern birds and eggs?"

Mr. Benar: "Because we do not produce enough."

Infectious Diseases.—Dr. C. H. Blemer, V. S., on this subject spoke first of Texas fever and the quarantine established by the Federal authorities, and by the State, by which a vast territory has been saved from the fever. He complimented the counties that have seconded the work of the Government in this matter. He explained dipping processes, and said they would stamp out the disease, and he believed that in a few years we will be wholly rid of it.

Anthrax is quite prevalent. It is regrettable, but true. "You must vaccinate cattle, sheep and horses to blot out anthrax, and vaccine must be used that insures immunity."

Hog cholera has been here and there, and it is almost impossible to guard against it. Disinfection is the thing to do in those cases. Dipping the hogs into a disinfecting solution is good practice. The speaker has better results from that than any other method. We have a disease in California scarcely known elsewhere, a bronchitis. It occurs among calves and is due to a lodgment in and irritation of the brouchial tubes. It is going to take hard work to eradicate it. The chief interest, however, centers about tuberculosis. Stockmen must wake up and do something practical in this matter, for it is the chiefest ill to which stock herds are subjected. It demands vigorous movement by live stock interests, and at once.

Swine Breeding.—Elias Gallup spoke of selecting breeding swine. Selection is a prime essential. In selecting stock there is a wide field for choice. The novice should buy only from an experienced breeder and of reliability. It pays to buy good animals and good advice, also, how to handle stock. After that there is time enough for experimenting.

The fairs give good opportunities for observing thoroughbred stock, but care should be taken, for big show stock is largely too fat. He pointed out the characteristics of good stock and how to distinguish fine grade animals.

There is no infallible sign of strong vitality in swine, but there are general rules as to form of body, head and legs which cannot be ignored and insure the selection of good stock. He told his hearers how to judge a hog so as to determine if its vital organs are doing full duty. Constitution in the hog is of the greatest importance, and how to determine it he explained with considerable detail.

He advised against breeding two animals together which are exactly the same in size, characteristics and merits. He urged that pedigrees be studied in selecting fine bred stock. In selecting breeders he advised against large heads, coarse hide, coarse hair, crooked legs, curved bodies and flabby ears, dull, cross-grained and ugly animals.

To Destroy Texas Tick.—James Irvine spoke of his experiences with California oils in dipping to destroy Texas tick. For a long time his range was free from the tick, but cattle brought in with them the tick.

It increased gradually and he lost cattle from it. He has found inoculation practicable in some cases. The tick reduces the blood and soon renders the animal useless. He had a rude method of oil dipping, or oil treatment, on the thrown animal. One can't make a satisfactory job of it, and throwing injures cattle. Then he tried a solution for dipping with success, in which tobacco and lard oil are used. The lard does no harm, but kerosene does.

He built a dip after the best example. It was 40 feet long and 6 feet deep at the center. In this he prepared to use crude oil. He was told he would kill his cattle. He got his oil at Los Angeles wells. He had from 1 to 2 inches of oil floating on the water. It had a high percentage of asphaltum. Some of his cattle he did kill by the dip, and it took the others weeks to get over it.

Then he used a lighter oil, and used it only on cool days, and with shelter provided, and still the cattle were burned.

In 1898 he got a refined oil, the use of which proved far more satisfactory. No oil is used that will not, with two or three dips, injure the cattle.

He does not believe that Beaumont oil will, at one dipping, kill all the ticks. But that oil cost him $10 a barrel, or in carload lots $3. He further studied and reached the conclusion that grease is needful. He presented analyses of oils that may be used, to show how much alike the successful ones are. The oil he now uses is not from any well, but from manufacturers. With a small amount of oil, a mere film on the water, in dipping 500 cattle he found afterward ticks upon but five. After five days a lot of yearlings were found to be free from ticks. California does not produce any oil that in its natural state is proper to use in dipping cattle. The tick can be cradicated, but it is impossible to get the California farmers to act as they should, especially in the southern part of the State, though they are doing better.

The northern and central California stock growers should take up the matter and promote intelligent action for cradication of the pest.

Grasshoppers.—Professor Woodworth of the University of California told of the thousands of dollars lost at Newman, in California, from grasshoppers, because of lack of knowledge how to fight the hopper. The hopper differs in different districts.

He exhibited pictures in colors of the species that did damage here and there in the State. In the Turlock vicinity the katydid of a peculiar form worked great damage.

The migratory and non-migratory grasshoppers are the two kinds doing most damage. The migratory comes in great swarms and sweeps the land bare of vegetation. Here, fortunately, the swarms are small, and come but short distances. But most damage is done by the non-migratory form of hopper, and it can be prevented by close watchfulness for the appearance of the young hoppers. They like bran and dislike smoke, and have many peculiar characteristics. Thus far but three species have been studied thoroughly. The Legislature should promote the inquiry to the end that remedial applications may be made.

In alfalfa fields the hopper doser is best employed. It is very efficient. A 16-foot doser can easily be handled by two men and one horse. One going over the field is not enough, but it is not yet known when all the hoppers were killed off.

When hoppers are abundant in the fall in alfalfa the use of a spade to cultivate the ground should be encouraged. Everyone should inform himself upon the whole subject, to the end that the coming of the hopper may be controlled, as they usually can be where there is preparation for them.

With this delivery the programme was completed and the convention adjourned sine die.

Cows and Grapes.

To the Editor:—Referring to an item on "Grapes as Stock Food," in your last issue, I would agree with Mr. Ladd of Stockton that, when dried, horses, mules, hogs and dogs will eat them with relish and do well on them, but before feeding any great quantity to cattle I would warn any one trying it to watch very closely the results. I once turned my cow, which I paid $75 for, into my vineyard, thinking bossy should have a great feed of second crop grapes, and went to milk her in the morning expecting a pailful of milk, but instead, got scarcely any milk, but had a very sick cow, and came very near losing her entirely. I took her out and put her on alfalfa again, and she came out all right, and I was told by a neighbor that green grapes are very bad for cattle, the contents of the seeds containing the injurious qualities. What they are I do not know, but I would not turn stock loose into such feed again.

Fresno. A Reader.

If the 24-inch pipe discharges 2 cubic feet per second, under the same circumstances a 28-inch pipe would discharge 3 cubic feet per second. It would take sixteen 8-inch pipes to discharge as much as the one 24-inch pipe.

A timber flume 10 feet wide and running 5 feet deep, with an inclination of 9 inches to the mile, would, theoretically, discharge 114.5 cubic feet per second.

THE GARDEN.

Early Varieties for Inland Regions.

Prof. A. J. McClatchie, who has had opportunity for observation for several years while he was in charge of the experiment station at Phœnix, answers a Yuma correspondent of the Cultivator, who intends to engage in horticulture in that region, as to what varieties of sweet corn, cucumbers, muskmelons, watermelons, squashes, peas, potatoes, tomatoes, apricots, grapes, peaches, plums, pears and figs it would be advisable to plant in order to secure the earliest products for the market.

Corn.—No standard variety of sweet corn has proven adapted to dry interior conditions. In place of the ordinary sweet varieties, the dwarf variety, Adam's Extra Early, is grown. If planted during the latter part of February and during March, marketable ears are produced during May. If planted much later, it is pretty sure to be so injured by heat that few or no ears are produced.

Cucumbers.—The various varieties of cucumbers do about equally well, the Early Russian being a small early variety and the Boston Pickling, the Long Green and the White Spine being larger varieties that produce cucumbers for market in the interior earlier than other varieties do in most other regions. The standard variety of muskmelons is the famous Rocky Ford, but all varieties ripen several weeks before the Rocky Fords do in other regions where they are grown for shipment.

Melons.—The best early watermelon tested at Phœnix is the Augusta Round White, a melon resembling the Sweetheart, but earlier and of much better quality. The Florida Favorite is usually next in earliness and is a popular variety in some sections. The melon that sells the best in most parts of the Southwest is the Chilian. Though comparatively a late variety, it ripens in the interior and can be marketed in Los Angeles several weeks before the local crop matures. Its culture in the vicinity of Indio is evidently profitable, and there is little doubt that it could be shipped from Yuma to good advantage.

Squashes.—Of squashes, only the bush varieties, making their growth as they do during the early spring and maturing their crop before the extreme heat of summer, are successfully grown. The season required for the maturing of the winter varieties is too long for them to come to maturity either between the frosts of winter and the heat of summer, or between the warm part of the year and the frosts of autumn. Their place is quite well supplied by the Cashaw Crookneck pumpkin, which yields well if planted during June, and produces a table article that is quite satisfactory. The earliest varieties of peas are the American Wonder and Little Gem. These, sown the latter part of August or during early September, produce some peas about Thanksgiving time. These early varieties are sown most generally, however, during January and February; but Yorkshire Hero sown during November produces green peas as early—during April—yields more heavily and has a longer picking season. Consequently, this variety is most generally planted for early spring peas.

Potatoes and Tomatoes.—Only the early varieties of potatoes, such as Early Rose, Triumph and Burpee's Early, have time to mature in the inland regions. The only tomato generally and successfully grown is the Dwarf Champion, a fairly early variety, producing fruit of good shape and quality. It yields abundantly from about the middle of June to the middle of August, then takes a rest and resumes bearing during October, continuing until the frosts of December.

Fruits.—The earliest marketable apricot is the Newcastle. As it ripens in the interior by the middle of May, it can be placed on the market a month in advance of the coast regions. The Royal, Montgamet, Moorpark, and, in fact, nearly all varieties, yield well in these regions and ripen their fruit several weeks earlier than do the earliest varieties in the coast region.

The only early grape that is grown extensively in the interior is the Thompson Seedless, which begins ripening early in June and usually yields heavily. Most later varieties come into competition with grapes from other regions, whence they can be placed upon the market more cheaply than from the interior.

Of peaches, the same early varieties succeed in the interior as elsewhere, the Alexander ripening during early June. The early varieties of plums that have proven best adapted to the dry inland regions are the Doris, Red June and America. The first is a medium-sized plum of excellent quality and the yield is abundant and regular. The same can be said of the Red June. America is not of quite so good quality, but is an excellent shipping variety.

The early varieties of apples, Early Harvest and Red Astrachan, do fairly well in the interior, but the variety that is most successfully grown is the Gravenstein. This variety endures the heat well and produces an abundance of good apples during June.

Agricultural Review.

Butte.

NEAT RETURNS FROM PEAR CROP.—Gridley Advance: From twenty-five acres of pears Mr. George T. Thresher received 250 tons, or ten tons to the acre. The pears were contracted for in advance at $22 per ton, making a gross return of $5500 for the twenty-five acres. Mr. Thresher states that the cost of producing and marketing the fruit was $10 per ton, leaving a clear profit to him for his twenty-five acres of pears the neat sum of $3000. The price paid for pears to-day is in excess of what Mr. Thresher contracted his crop for some months ago—it being as high as $27.50 per ton.

ALFALFA PLANTS SENT TO WASHINGTON.—Chico correspondence Sacramento Bee: There will be shipped to Washington City soon from the Plant Introduction Garden a large number of varieties of alfalfa plants which have been grown in the Garden. This makes the first shipment of the kind to be sent East. The seeds for these plants reached here in May, and only two ounces of the seeds of each variety were received, yet they were so carefully cultivated that there are now a number of the plants growing from which seeds are being taken. These seeds will be carefully preserved until next year, when there will be a sufficient amount to raise considerable alfalfa. There are a number of varieties of alfalfa and the entire plants, including the roots, will be sent to Washington that the officials of the department may see what is being raised here. There is a great difference between the varieties. Some have a very small root, while others are very large. Some have a bushy top, while others have a scraggly one. There is also a great difference in the leaves and seeds. It may be two years more before the actual value of these varieties of the alfalfa can be definitely noted, but during that time they will be carefully studied by the Government authorities, who will report as to their findings.

Colusa.

DIES FROM RATTLESNAKE BITE.—Sun: A rattlesnake bite caused the death of one of the Colusa and Lake surveying party's horses last week. The surveyors were going to camp about nine o'clock in the evening when they were startled by the hiss of a rattlesnake. The next instant they heard the reptile's warning rattle and one of their horses suddenly jumped to one side. The rig was stopped and some of the party got out and made a search in the dark, but could not find the snake. They drove on to camp and the matter passed from their minds. When they went to get their team the next morning they found one of the animals dead and swollen so badly that the skin had burst in several places.

Fresno.

ARMY WORMS.—Sanger Herald: Army worms are playing sad havoc with the vineyards and alfalfa fields hereabout, eating off all the foliage from the vines and leaving the grapes exposed to the rays of the sun, while the bare and sunburnt appearance of the alfalfa suggests that it has been struck by lightning. Millions of yellow butterflies swarm over the fields, and how to get rid of these pests is a much mooted question with our farmers and vineyardists.

Kings.

NO STATED PRICE FOR WINE GRAPES.—Lemoore Leader: We understand that the wineries comprising the Italian-Swiss Colony Company will not make public by publication the prices which will be paid by them the present season for wine grapes, but will have blank tenders for signing by the growers, the growers themselves setting the price per ton at which they will agree to deliver grapes at the winery, the prices quoted by the growers in said tenders being subject to acceptance or rejection by the wineries. The reason assigned for this mode of procedure is said to be due to the fact that no set prices have been made by the Wine Association for this season's vintage.

A GOOD COLT KILLED.—Hanford Sentinel: Yesterday afternoon as Chris McCoy was hitching up a team of C. K. Ragan's young horses, one of them became unmanageable, reared and fell on its back with such force that the blow on its head killed it. This is quite a loss to Mr. Ragan, as he had the team sold for $275.

Lake.

FINE PEARS.—Clear Lake Press: Mr. C. A. Ludlow, in charge of the pear packing sheds at Kelseyville, for Hunt Bros., is authority for the statement that the pears so far received by the packers are above the average in quality. Mr. Ludlow freely expresses the belief that Lake county pears are almost always of superior merit, and that there should be a considerable increase in the acreage planted to pears in the strong soil of Big Valley, owing to the uniformly fine quality of that fruit there, and to the comparative freedom from pests.

Los Angeles.

FIRST BROOD OF NUBIAN OSTRICH CHICKS.—Pasadena Star: The first brood of chicks ever hatched from Nubian ostriches caught in the wild state made their appearance at the Cawston ostrich farm yesterday. They are a great curiosity for the reason stated, and also because of the great value of the feathers of the Nubian ostrich, which are larger and lighter in color than those from the South African birds. Mr. Cawston recently took to New York a crop of the feathers plucked from these wild birds, and had them pronounced the finest feathers ever seen in that city.

Merced.

SWEET POTATOES.—Sun: The sweet potato harvest and shipping season is about two weeks advanced in the Atwater district. An average of three or four cars have been going out daily from the three shipping stations—Atwater, Buhach and Ashby. Saturday last eight cars were shipped from these places. It is estimated that the blight which affected the growth of the sweets this season diminished the yield about 15%, but the slightly increased acreage this year about makes up the deficiency, so the output this year will probably not vary much from last year. The price is now $1.25 a hundred, which is the same figure at which they sold at the corresponding time last year. However, we are told that the demand seems to be comparatively slack this season, and that the sweets are not going out as rapidly as they ought. The present shipments are being made to San Francisco and Oregon and Washington points.

Napa.

BACTERIA KILLS BEAN VINES.—A Napa dispatch states that a new disease has appeared on the bean vines in the vicinity of Napa, causing the destruction of the vines. Many growers have had a large patch of pole and bunch beans, and when the crop was looking well the vines took on a sickly hue and within a week were dead. Samples of the deceased beans were sent to R. E. Smith, professor of plant pathology at the University of California. He reported that the disease was a new one of bacterial character which is of unusual occurrence. By cutting across the affected stems near the root a dark, discolored ring is seen just under the bark, and this is where the bacteria are located. Professor Smith says the only remedy at present is to burn the affected vines.

Placer.

FRUIT CROP NOTES.—Republican: It is estimated that the Newcastle fruit shipments will reach 750 cars, taking in the local freight and express shipments for the season. James Boyce, manager of H. S. Kirk's orange orchard and the Auburn orange orchard, sold from twenty-six late Valencia orange trees $238 worth of fruit at the rate of $2.65 per box, f. o. b. Newcastle. The Placer fruit crop will be much larger than was first estimated. Levy cling and Salway peaches, which were thought to be almost a total failure, are turning out better than expected.

Riverside.

NEW GRASS CROP.—San Jacinto Register: The recent thunder showers in the mountains have brought out a new grass crop. The whole Hemet valley, from the Thomas ranch down to Cahuilla, or just as far as the rains were abundant, is one carpet of green. The grass is short, but has been growing rapidly the past week. The cattle men are in luck. Wherever the rain has been abundant, stock which had become thin will take on enough flesh to go through the winter, provided there are early winter rains. These showers, however, do not cover a very wide area. They water the mountains in spots. But the succession of showers in the Thomas valley covered a good grass area with not less than 3 inches, and in some places much more.

Sacramento.

GOOD FRUIT PRICES.—Union: The California Fruit Distributors are securing fine prices for fruit. A car of fruit—grapes and plums—shipped by Davies from Florin through the Pioneer Fruit Co. brought the fine price of $2164. The fruit was choice and in fine condition. It was sold in New York. Tokay grapes brought from $1.75 to $2.10, Hungarian plums $1.30, Kelseys $2.87 to $3.35, fancy $3.37 and extra $4.25. Malvoise grapes brought $1.30. This is a record price so far. A mixed car of grapes and plums from Napa sold for $1202. Grapes brought from $1.10 to $1.65, Hungarian plums $1.30. Malagas from Fresno sold in Boston from $1 to $1.10.

San Diego.

SETTING UP BIG PUMP.—Union: The large new pump to be installed at Monte by the San Diego Flume Co. is now being set up at the pumping station beyond Lakeside under the supervision of C. C. Moore & Co. of Los Angeles. Its capacity will be 3,000,000 gallons per day. Several smaller pumps have been in operation for some years at the Monte, but latterly have been demonstrated to be inadequate to the demands of the service. With the new pump in operation, it is expected that about 6,000,000 gallons per day will be developed at the plant. The ranchers of El Cajon valley, the La Mesa section and as far down as Teralta will be benefited by the additional pump.

MANY CATTLE COMING. — Imperial Press: Lots of cattle are coming in now, to fatten up on Imperial feed. Besides the two trainloads reported last week, covering 750 head, another trainload was brought in this week, closely following that from Texas for Mr. Holt. This last arrival was an eight-car train by Mr. Garner of San Bernardino and carried 240 head, which were taken at once to pastures in the vicinity. This makes 990 head by these three trainloads, and their fattening and care will add materially to the earnings of the valley.

San Joaquin.

PUMPING TO BEGIN SOON. — Lodi Herald: Work of reclamation is proceeding in the overflowed districts and several dredgers are at work on the Bouldin Island and Staten Island levees. In the Terminous districts pumping is expected to begin immediately. Nine large centrifugal pumps, varying in size from 15 inches to 30 inches, will be put to work and will be kept running night and day in an effort to place the rich land in condition for cultivation as soon as possible.

A MAMMOTH MELON.—J. P. Watkins presented the Herald with an extra large muskmelon, standing 12 inches high when on the flat side and weighing nineteen pounds. The melon, while it is the largest ever produced in this locality, is of fine flavor and not coarse and stringy as most mammoth melons are. It made this tremendous growth without irrigation or cultivation. Mr. Watkins says there are many others in the patch, but none as large as this one.

Santa Clara.

MAMMOTH BARTLETT PEARS.—San Jose Herald: Mr. John Willoughby, near Alma, exhibits half a dozen Bartlett pears of mammoth size, and although they are larger than the average of his crop, his entire output exceeds in size the average of pears grown in other sections of the State. These pears were grown without irrigation, the rainfall at Alma being three times as great as in the valley and the soil is deep and rich with the humus of cleared timber land. The pears measure individually 4 inches in diameter by 5 in length; the largest weighs one pound and two ounces, and the six combined weigh five pounds and three-quarters.

Santa Cruz.

SHORT CROP OF BELLEFLEURS.—The first carload of Bellefleur apples of the season arrived in Los Angeles on the 27th ult.—700 boxes—which went like hot cakes at $1.60 "per." While this is a steep price, it is cheap compared to what the figure will be later in the season. The Watsonville crop, which is the mainstay of the market supply of this variety, is badly off, and reports from the packers state that but 20% of an output will be had.

Stanislaus.

SHEEP AT WATERFORD. — Modesto News: The advance guard of the sheep men, who for the last few years have pastured their flocks on the stubble of the grain fields about Waterford and made their fall clip there, are on the ground with some 5000 or 6000 sheep. Shearing will be in progress for some weeks. The rental for stubble averages from 25 to 30 cents an acre, so that, all in all, Waterford and the surrounding farmers derive a considerable revenue. Probably 20,000 or more sheep will be pastured and clipped there this season.

Tehama.

HEAVY SALES OF DRIED PEACHES.—Red Bluff Cause: The local fruit market has been quite active in Red Bluff for a few days past and about all the peach crop has been sold. It is estimated there will be thirty cars of dried peaches shipped from here this season. This fruit has brought good prices—from 6 to 6½ cents and some fancy lots brought as high as 7 cents. In some portions of the county the crop was good, while in other portions it was almost an entire failure. Some fine peaches were produced this year and this accounts for the good price the fruit brought. The Tehama County Fruit Co.'s purchases Monday and Tuesday amounted to 200 tons, which included the Antelope valley crop. The James Feeley Co. secured the crop about Corning and report that their purchases will amount to about fifteen carloads.

TURKEY RAISING.—Redding Searchlight: In the neighborhood of Corning, in Tehama county, there are several turkey herds containing as many as 3000 birds. This is one of the most successful turkey districts in the State. The turkeys are hatched between April 20th and May 20th. At Thanksgiving time the turkeys are six months old and ready for the market, although the year-old and two-year-old birds are much larger and bring more, for they are all sold by weight. When they are all killed for shipment they are plucked but not drawn, and that way they bring at Corning an average of 18 cents a pound. The average turkey is worth $2 to the man who raises it. By this it is evident that one of these big herds at Corning is worth $6000. That is the cash value of a season's crop of turkeys—the financial proceeds of less than seven months of turkey farming. Last year, just before Thanksgiving, a single shipment of 58,000 pounds of turkey was put on the cars at Corning. It is the largest single shipment of turkeys ever made in the far West. That was about $10,000 worth of turkeys in one load.

Tulare.

IRRIGATING GRAIN BY PUMPS.—Register: While the use of the pump has not been advocated as a means of irrigating grain fields, the experience of W. J. Browning proves that in some instances it may be made effective even on so large a scale. We are told that from land irrigated by his pumping plant he recently harvested grain which yielded eleven sacks to the acre. Of course Mr. Browning has a greater supply than is usually obtained from a single well. However, for the irrigation of alfalfa and orchards the efficacy of the pump has been thoroughly demonstrated.

CATTLE DYING IN THE HILLS.—Times: M. F. Janes, forest ranger, who came down Thursday from the mountains, states that several head of cattle have died recently in the hills for no apparent cause. Three heads which died recently belonged to Bob Hockett, who lost several previously. George Smith, who resides near Plano, is also a loser of several head near Trout meadows, where Hockett is also staying. The latter thinks that the cattle have obtained some poisonous mineral washed into the meadow by the heavy rains.

THE CITRUS CROP.—Dr. J. W. Graybill states that the citrus crop in the Lindsay section this year will be large and probably ten days earlier. He estimated an increase of at least 30% in the orange crop over last year due to the increased size of many of the trees, the bearing of trees budded over from lemons, and the coming into hearing of young groves Dr. Graybill states that on his own place he will have one-third more oranges than last year. The trees are young, ranging from two to seven years, and hear more heavily each year.

Yuba.

WILL GROW BETTER WHEAT. — Marysville Democrat: A large number of wheat farmers in Yuba and Sutter counties are about to abandon the growing of Club wheat and instead plant white varieties next season. Seed wheat for this purpose has already been purchased by several. The reason assigned is that the flour mills prefer white wheat and will hereafter discriminate in its favor. It will bring better prices than the other.

Horse Owners! Use

GOMBAULT'S



Caustic Balsam

A Safe, Speedy, and Positive Cure

The safest, Best BLISTER ever used. Takes the place of all liniments for mild or severe action. Removes all Bunches or Blemishes from Horses and Cattle, SUPERSEDES ALL CAUTERY OR FIRING. *Impossible to produce scar or blemish.* Every bottle sold is warranted to give satisfaction. Price $1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars.

THE LAWRENCE-WILLIAMS CO., Cleveland, O.

A BOON TO FRUIT GROWERS AND ORCHARDISTS.

By Act of Congress, a remarkable scientific system has been secured for irrigating and fertilizing fruit trees in drought and poor, dry soils. It can be cheaply and easily made, is permanent and automatic, by applying the plain directions which will be sent on receipt of money order for One Dollar, payable to its inventor, DR. CHAS. C. BENSON, Santa Cruz City, California.

The Home Circle.

Apple Pie.

Let others praise the red, red rose,
Whose haunting scent none may forget,
But almost anybody knows
The apple pie is sweeter yet.
Let others sing the damsel fair
Who thralls them with bewitching art:
But apple pie drives off my care
And trips the highway to my heart.
And if its cold—
Say one day old—
I want all of it I can hold.

When apple pie has held the shelf
Until it's cool and crisp and firm,
I'll eat a whole big one myself
And never murmur—not a murm'!
Why, when it's sliced it fairly smiles,
And chuckles when its honeyed juice
In tantallizing drips beguiles
The cravings that it has set loose.
O, if it's cold—
Say one day old—
I want all of it I can hold!

I think I'd give away my crown,
Were I a man of royal birth,
To eat, while holding upside down,
The last piece of it on this earth!
Why, every summer smile and song
Is held within an apple pie—
And that's the place where they belong,
All peace and dulcetness! O my!
When it is cold—
Say one day old—
I want all of it I can hold!

—W. D. Nesbit, in Ainslee's.

The Living Landscape.

Of our swift passage through this scenery,
Of life and death, more durable than we,
What landmark so congenial as a tree,
Repeating its green legend every spring,
Type of our brief but still-renewed mortality.

Men's monuments grow old, forget their names
They should eternalize, but the place
Where shining souls have passed imbibes a grace
Beyond mere earth; some sweetness of their fames
Leaves in the soil its unextinguished trace,
That penetrates our lives and heightens them or shames.

—James Russell Lowell.

Tirzah's Chimney.

Five years before, when Solomon Green had asked Tirzah Hancock to become the second Mrs. Green, she had tartly refused the honor. "I ain't much of a beauty," she had told him, "but no warmed-over affection fur me, thank you, Solomon Green."

Solomon had reasoned all in vain.

"Why, Tirzah," he pleaded, "it ain't no ways natural fur wimmen to live alone. Every mornin' your chimbly is the furst thing I look at, an' if I wasn't to see the smoke a comin' out of it, I'd be scared to death thinkin' you was robbed, or killed or sunthin'. What's the use in us keepin' up two houses when one would do just as well?"

Since that time the two had hardly exchanged a dozen words. Solomon had not married, neither had Tirzah, and now on the night before her fortieth birthday she sat looking around her orderly little room with the most desolate feeling at her heart she had known for years.

To-morrow would be her birthday. Mechanically she had gone through a few preparations for that rather dubious festival. The smallest hen from her flock was curled up ready for roasting inside the same pan in which her hens had been roasted for the last fifteen years. A green-apple pie sat on the pantry shelf beside a sour-cream spice cake, while a plate of mealy tarts was waiting patiently the filling of grape jelly to be theirs on the morrow.

Never before, at that season of the year had Tirzah's hens been laying so well.

Her cow had never been known to give so large a yield of milk. There were three new kittens in the basket behind the kitchen stove, and her canary bird was the loudest singer in all the village. But for all this Tirzah was not satisfied.

She had heard that day that the widowed cousin, who usually kept house for Solomon Green, had unexpectedly married.

Of course, that was nothing to Tirzah, but still—here she sniffed two or three times, and then, without a particle of explanation to the astonished cat, who had come forth demanding her allowance of milk, sat down in her cane-seated rocker and burst out crying.

For five minutes she cried, and then she dropped her apron and looked guiltily about.

A thought intruded itself upon her which she considered in the light of a secret crime. Over and over again, despite herself, she rehearsed Solomon's proposal, each word as it had been spoken, until, suddenly, like the handwriting upon the wall, there stood forth these words: "Every morning your chimbly is the first thing I look at—"

Had he meant it? Did he still turn his eyes with the coming of morning light down the little hill which lay between them? Did her lonely chimney still claim his thoughtful care?

Five minutes later the dark plot was formed, and Miss Tirzah was hurrying about her preparations for the night with cheeks that burned with fires she had thought long since gone out forever.

The following morning more astonished creatures there could not be than were the kittens, cat, cow, hens and canary of Miss Tirzah Hitchcock. Something, certainly, had gone wrong.

Six o'clock came, and the stable door was not opened by the brisk mistress. Half-past six, and still no fire in the kitchen. Seven o'clock, and no breakfast yet for the mistress and her indignant dependents.

Loud and angry rose the protest of Brindle from her snug stall, while the old cat and canary did their best to stir things up inside.

Meanwhile, hidden by the parlor curtains, crouched Miss Tizrah, wrapped in a huge red and green shawl, her heart fluttering between shame and dread, while her eyes watched with fevered anxiety the house just up the hill.

Oh! how pitifully foolish now looked her deep-laid scheme when faced in the broad light of day.

Of course, he had forgotten, years ago, to watch her chimney. What was it to him now whether she had a fire or not? She would go this very minute and build it. She—

Why, what was that? Some one was coming out of Solomon's front door. Some one—why it was Solomon himself, creeping forth as if he had just been engaged in stealing his own spoons and was now making off with them to a place of hiding.

Where was he going?

The heart of Tirzah stood still for one long and nerve-destroying second, then it went on again with such a hammering and commotion beneath the red and green shawl that a less plucky woman would have fled for the camphor bottle on the instant.

Solomon was coming down the hill straight toward her tiny home. Coming, it is true, not as the conquerors come, with bold and martial tread, but after a timid, slinky fashion of a man who had had his last advances in that direction scorned.

When it was certain past all shadow of a doubt that he was coming into the house, Tirzah, the crazy creature, betook herself to the cane-seated rocker, where, wrapped to the chin in the big shawl, she waited with palpitating heart for the timid knock which at length sounded on the door.

"Come in," she then called feebly, at which the door was opened cautiously, inch by inch, until the entire figure of the middle-aged lover was disclosed to view.

At the sight of Tirzah, bundled up in the armchair, all of his hesitation vanished.

"Why, Tirzah, are you took sick?" came in the loud, cherry voice which had not sounded in the room for five years past. "An' it's cold enough in here to freeze the hair off a dog's back. Let me fix you a fire."

In a few moments a cheerful fire was roaring up the chimney. To be sure, there were more chips on the floor than Miss Tirzah would have scattered in a twelve-month, and the cat was spitting out her indignation in a remote corner over an injury done her sleek tail by the heavy boot of Miss Tirzah's new fireman.

Tirzah, however, noticed neither the chips nor the anger of her cat. Not redder than her cheeks was the blazing fire, for Solomon had taken courage and was sitting beside her, inquiring kindly when she "was took," and if he shouldn't go and "fetch the doctor?"

"You see, Tirzah," he said with a guilty laugh, "I allers look at your chimbly the fust thing in the mornin'—I've kinder got into the habit. I know you don't like it, but—eh—why, Tirzah, woman, whatever ails ye?"

"Solomon," cried Tirzah, and she almost screamed it in her excitement," I—I do like it. I—oh, Solomon—I didn't build a fire for a purpose."

And Solomon—

He rose then and there and kissed her!—Clara Parker, in Housekeeper.

Medicine in Our Food.

It is a common observation that the quantity of any characteristic element in a plant varies with its richness in the soil. This is, of course, a correlative of the well-known beneficial action of fertilizers in increasing plant growth. It is now proposed, however, to attempt the cultivation of medicated plants — that is, common vegetables containing abnormal quantities of substances it is desired to administer.

It is evident to every one at all acquainted with the laws of physiology that the assimilation of mineral elements by the body is much more readily accomplished when these are partaken in the form of food in vegetables. In the past, if the body has needed an excess of iron, it has been supplied by iron tinctures taken through a glass tube after meals.

The modern idea is to supply this want by certain vegetables, such as spinach. Experiments looking to the demonstration of this scheme have been undertaken recently in Europe. Furruginous plants were grown in soil enriched by the addition of hydrate of iron, and upon analysis it was found that plants grown in such soil contain a much larger percentage of iron than similar plants grown in natural soil.

Of course, it is not to be supposed that this increase in the percentage can be increased indefinitely, but it can be carried to a maximum point, which is very much greater than the average. This same demonstration has also been carried out in connection with tea cultivation. Samples of tea leaves from several plantations having similar cliate and altitude conditions, but different soils, were gathered, and, after drying, were analyzed in the laboratory for their content of iron, nitrogen, phosphoric acid, silicic acid, caffein and ash.

The various soils in which the several plants yielding the sample leaves had been grown were also analyzed for similar elements, and it was found that the chemical composition of the soil, especially the quantities of those substances taken by the plant, has an an influence, clearly demonstrated by chemical analysis, on the composition of tea leaves produced of such soil.

A very interesting vista opens up to the prophetic eye in giving free rein to the imagination on this fascinating subject. Will the doctor of the future, instead of ordering a nauseous dose from the druggist, prescribe a course of medical vegetables, furnishing the iron, or potash, or manganese, etc., by means of these "doctored" or "medicated" vegetables? Certified milk, which, with its guaranteed proportion of milk fat, milk sugar and solids, might have seemed an improbable commercial article fifty years ago, is now obtainable, and, if so, why not "certified vegetables" in the immediate future.

A Suggestion.

Miss Sweetgirl—You are so different to other men. I don't know what to make of you.

Lovelorn—Why not make a husband of me?

Substitutes for Meat.

The threatened famine of meat spurs the housewife to look about for something to take its place. The substitute must, of course, be equal to meat in nutritive value, and cost no more than it did before prices began to soar. This is fortunately an easier matter to face n summer than in winter, though in some families it will be difficult to find anything that will really be as acceptable as meat.

Although meat is strengthening and stimulating, its nutritive properties are exaggerated in the mind of the average person. Too much meat clogs up the system, making an unnecessary amount of blood. It is said on good authority that only laboring men who work outdoors need the blood-making qualities of meat three times a day. Among the peasants of Europe, however — and they are a hardy people—meat is not much used, eggs, cheese and milk taking its place.

Attractive dishes of fish, cheese and eggs dressed in new ways are good substitutes for meat. Nuts are very nutritious, and if eaten at proper times there is no better substitute for animal food. Some physiologists go so far as to assert that nuts contain more elements of nourishment than butter and meat combined. When there is a scarcity of meat it is a good plan to serve nuts quite freely, with plenty of salt or in cooked dishes. They are, of course, not good in quality at present, and not an especially cheap substitute. Mushrooms are also wholesome. Peas and beans are also rich in proteids. An appetizing way of serving baked beans is to place a small onion in the bottom of the pipkin and bits of butter on top of the beans to give them a very rich, brown crust.

Rich fish, like salmon, bluefish, mackerel and others, in which the oil is about evenly distributed through the flesh, are more nutritious than codfish, halibut and the dried fish. When most of the oil centers in the liver, as in the cod, cusk and others, the flesh of the fish deteriorates rapidly. When it is evenly divided through the body, it gives the flesh a rich, fine flavor, and tends to preserve it.

Cheese is rich in nutritive elements. There has been a popular belief that it is not easily digested. This objection, however, applies only to poor and new cheese. Cheeses that are old and rich are not only easily digested, but promote the digestion of other foods. Cook books usually contain an abundant supply of recipes for rich and wholesome cheese dishes — roasted or toasted cheese, souffles, Welsh rabbits, omelets, etc. Therefore, there should be no lack in variety.

In the height of summer fancy and wholesome dishes of eggs, which are rich in proteids, may take the place of meat very satisfactorily for a while at least. A novel way of serving eggs is the following: Poach them until tender and firm throughout. Just before sending to the table place them on delicate slices of toast and cover each egg with rich grated cheese. Serve with a little spicy sauce or ketchup. Sometimes the eggs and cheese are placed in the oven for a few minutes before serving, until the cheese is softened.

Another way of serving eggs is in the form of a Spanish omelet. Make a large omelet, using six fresh eggs. Beat them thoroughly together, adding about half a cup of milk and plenty of salt and pepper. Just before folding the omelet spread on it some tomato sauce. Then fold and place on a platter with a little parsley, and if desired, serve a tomato sauce with it.

An excellent tomato sauce for this purpose is the following, which does not demand meat stock in its makeup: Put one tablespoonful of butter in a frying pan. When melted, add a tiny white union and three slices of carrot, minced fine; half a sprig of thyme, half a bay leaf, half a spray of bleached celery, cut in small pieces, two sprigs of minced parsley, and, if convenient, a tablespoonful of boiled ham, also finely minced. Let the herbs and vegetables

cook for five minutes, then stir in a large heaping tablespoonful of flour, and when this browns add a quart of canned or ripe tomatoes. Select tomatoes which possess a large proportion of pulp to the seeds. Cook this sauce 45 minutes, season with a scant teaspoonful of salt, a salt-spoonful of pepper and a teaspoonful of sugar. When cooked, strain through a sieve (a Scotch cap sieve is the best). This sauce, if placed in a covered earthen jar near the ice in the refrigerator, will keep for several weeks. It is delicious served with eggs, macaroni and many other dishes.

The following recipe is recommended by a housewife: Take a pint of stewed tomatoes which have been cooked for half an hour and season with salt, pepper and butter. Having broken six eggs into a dish, slide them carefully upon the tomatoes, and as the whites stiffen slightly pull up the edges. When they have become opaque prick the yolks, allowing them to run out over the whites and the tomatoes. When they have become the consistency of cream turn the mixture out upon a platter on which are arranged slices of buttered toast.—New York Tribune.

In Good Old Wildcat Days.

Senator Scott who is a West Virginian now, but an Ohio man by birth, tells a story about an experience an Ohio man had many years ago when he went over to West Virginia on a little pleasure excursion. It was old Virginia at the time, however, as this happened before the Civil War. The Ohio man had a "red back" dollar, a part of the currency of his State, and it was considered good. He stopped at a place of refreshment and got a drink. The whiskey was drawn out of a keg and served in a tin cup. When the liquid had been swallowed he laid down his "red back" and the bartender dived under the bar and brought out six coon skins, five fox skins and ten muskrat skins and passed them over for change.

The Ohio man did not want to show his ignorance of Virginia currency, so he took up the pelts and walked away. But he wanted to establish values if possible, and went into another saloon and laid down a fox skin. Without saying a word the man behind the bar gave him a muskrat and five rabbit skins. As the load was increasing in size he concluded that he would soon have more than he could carry, so he went back to the first place and laid down the whole lot, saying:

"Here, give me another drink. Take all these; I've had all the experience I want."

Then he sought his canoe and started for the Ohio side of the river.

Domestic Hints.

Green Pea and Potato Salad.—Mix equal parts of cooked peas and potatoes cut in very small cubes; season with salt and pepper, and serve as green pea salad.

Oranges Filled With Jelly.—Take half a dozen oranges that are perfect; make a hole at the stem end about half an inch in diameter; take a teaspoon and remove the pulp, and then soak the oranges in cold water for an hour; then scrape with the spoon until they are smooth inside; rinse with cold water, and drain on a cloth and put them in an ice box. Prepare pink and clear orange jelly, with the juice of two lemons added. Fill half of them with the pink, the other half with clear jelly, and when they are set wipe clean and cut each orange in four quarters. Heap them in a pretty glass dish for the table.

Cucumber Sweet Pickle.—Slice the cucumbers about one inch thick, and boil for one hour in weak alum water; take out and lay in cold water; let remain till perfectly cold; then boil again in fresh alum water half an hour; drain the fruit well; make a syrup of one pound of sugar to each pound of fruit; to four pounds of fruit one pound of cider vinegar; boil the syrup; then put in the fruit and boil it till transparent. Add mace, and if the syrup is not thick enough continue to boil after the fruit is removed. When cold, sprinkle in some white mustard seed.

Caramel Ice Cream. — One-third cupful of thin cream or one-sixth cupful of each of heavy cream and milk, one and a half tablespoonfuls of granulated sugar, one tablespoonful of boiling water, one-quarter teaspoonful of vanilla, a grain of salt. Put sugar in a small saucepan; place on range and stir constantly until melted. Add water and boil until mixture is reduced to one tablespoonful. Add cream very slowly, vanilla, salt, then freeze.

Cheese Custard.—Butter a baking-dish, put a layer of bread cut in pieces one inch square with crust removed, sprinkle thin-sliced cheese over the bread, dust with salt and paprika, or a few grains of cayenne. Add other layers of bread and cheese, seasoning as before, using in all half a small loaf of bread, one cup of cheese and half a teaspoonful of salt. Beat two eggs slightly, add one pint milk, and pour the mixture over the bread and cheese. Bake about half an hour in a moderate oven.

Hints to Housekeepers.

A few peach leaves, boiled in the milk of which ice cream or pudding sauce is to be made, will be found an excellent substitute for almond flavor when in some emergency the latter is not procurable. Care should be taken, however, not to use too many, as otherwise a bitter taste is imparted.

A fur rug which is hardened in the washing and drying may be softened in the following way: Mix together three tablespoonfuls of castor oil, one of glycerine, and one of turpentine. Rub this preparation into the back part of the rug, and let it remain for a week, then rub it with a smooth stone or block of wood. Wipe thoroughly before relining.

Tutti-frutti ice will appeal to the economical housewife, because it affords such a delightful way of using up odds and ends of fruit. All kinds, both fresh and canned, may be mixed together, the softer ones crushed and the firmer cut into bits, together with almonds and candied citron. A rich, thick lemonade is the blending medium, the freezing being the same as that of ice cream.

Iron and steel goods of all descriptions are kept free from rust in the following manner: Dissolve one-half ounce of camphor in one pound of hog's lard, take off the scum, and mix as much black lead as will give the mixture an iron color. Iron and steel goods of all kinds rubbed over this mixture, and left with it on for twenty-four hours, and then rubbed with a linen cloth, will keep clean for months.

No matter what the fish, the juice of one lemon added to the water in which it is boiled is almost indispensable in the opinions of the West Indian cooks, who make more of a specialty of a fish course than of any other part of the dinner. They generally send it to table resting on a bed of snowy, puffy rice, which becomes delicately saturated with the flavor of the fish, and is served with it to those who like rice.

The odds and ends of watermelon rind, which are usually thrown away as worthless, can be converted into a very nice pickle with but little trouble. Peel or cut into slices or cubes, as preferred, and put to soak over night in strong brine. Next day put pieces on to boil in clear, cold water. When so tender that a straw can be run through, drain off the water, replace with white wine vinegar sufficient to cover, and put in a few red peppers and a little allspice. Bottle while hot.

Inexpensive Nottingham and other lace curtains which do not require ironing are best dried on frames. Wash them clean and starch them slightly. Pin them on the light wooden frames which come for this purpose, and on which they may be evenly dried. If they are ironed they are likely to be pulled out of shape. When there are no frames on hand large lace curtains may be pinned on a clean carpet and allowed to dry evenly in this way. Curtains that are dried on a clothesline are so pulled out of shape by the process that they can seldom be hung properly.

Not only can fat be kept down, but thin people can vastly improve their figures by proper exercises. Lifting the shoulders up, and back and forwards, many times, and rolling the head around, does wonders in filling up the hollows in the neck and rounding the contours of the shoulders. The last exercise — rolling the head around like a ball — is recommended to sufferers from nervous headaches, which it often alleviates, if it does not quite cure.

Oilcloth should never be scrubbed; if this course be followed, the paint will quickly be worn off. It should first be carefully swept with a soft brush, to remove all the dust and fluff, and then wiped with a large soft cloth wrung out in tepid (not hot) water. If it is very dirty it may be necessary to use a little soft soap, but this should be done rarely, and on no account must soda be used. When it is dry wipe over with a cloth or sponge dipped in skim milk, which will brighten and preserve the colors and give it a polish. After sponging with the milk, dry with a cloth. Occasionally, to give the oilcloth a good polish and greatly improve its appearance, apply beeswax and turpentine. Rub it on the oilcloth with a piece of flannel, and then polish with a dry duster.

"We treat our cook just like one of the family," said Mrs. Gilfoyle.

"We don't," added Mrs. Poindexter. "We don't dare. We are polite to our cook."

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Artist (dreamily)—Y-e-e-s—but give it all the same.

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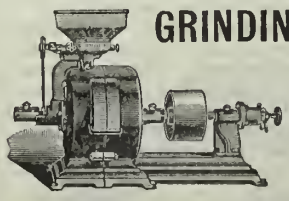
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The Markets.

San Francisco Produce Report.

San Francisco, September 7, 1904.

CHICAGO WHEAT FUTURES.

Wheat futures in Chicago were as follows for the week named, price being for No. 2 Red per bushel:

	Dec.	May.
Wednesday	$1 07¼@1 09	$1 09½@1 11⅜
Thursday	1 08 @1 09⅜	1 10⅛@1 11⅝
Friday	1 09⅜@1 07⅝	1 11¾@1 09¾
Saturday	1 07⅝@1 06¾	1 09⅞@1 09
Monday	*——@——	——@——
Tuesday	1 05⅝@1 06½	1 07½@1 09

CHICAGO CORN FUTURES.

Prices of futures on No. 2 corn per bushel in Chicago were as follows for the week:

	Dec.	May.
Wednesday	51½@52	49⅜@50
Thursday	51⅝@52⅞	49⅝@50¾
Friday	51¾@52¾	50⅛@49¾
Saturday	52⅜@51⅝	50⅜@49⅝
Monday	*——@——	——@——
Tuesday	51¼@51½	49⅛@49⅛

SAN FRANCISCO WHEAT FUTURES.

The range of values in San Francisco for No. 1 White wheat per cental was as follows:

	Dec., 1904.	May, 1905.
Thursday	$1 51 @1 51½	$——@——
Friday	1 50¼@1 48¾	——@——
Saturday	1 48 @1 48¾	——@——
Monday	*——@——	——@——
Tuesday	1 46⅞@1 48	——@——
Wednesday	——@——	——@——

*Holiday.

Wheat.

The local market has not changed materially in quotable values or general tone since date of last issue. There has been little opportunity for business, with holidays so numerous that they are the rule this week and working days a rarity for those in a position to take advantage of the respite from toil. But if every day had been devoted to business, it is doubtful if much would have been accomplished in the wheat market. Both shippers and millers were slow to operate at prices generally asked, and it was the rare exception where any disposition was shown by holders to grant any material concessions to buyers. In the matter of clearances, September starts in with a better record than was made in July or August, although the movement outward is still far from brisk. On the 1st inst. two part cargoes where cleared for Europe, aggregating over 1000 tons. For the entire season to date the total shipments from this port only foot up 2150 tons, and is the lightest showing for any corresponding period since California has been known as an exporter of this cereal. Latest advices from the Dakotas, Minnesota and Manitoba state that the crop in those sections is turning out a little better than had been expected.

California Milling	$1 50 @1 60
Cal. No. 1 shipping, alongside	1 42½@1 45
Oregon Club	1 40 @1 45

PRICES OF FUTURES.

During past week the range on options was:
December, 1904, delivery, $1.51½@1.46⅞.
May, 1905, delivery, $——@——.

Tuesday, at the forenoon session of Exchange, December, 1904, wheat sold at $1.46⅞@1.48; May, 1905, $——@——.

Ocean freights and prices for wheat, as compared with a year ago, are as follows:

	1903-04.	1904-05
Liv. quotations	-s-d @-s-d	-s-d@-s-d
Freight rates	12½@16s	22½@—s
Local market	$1 45 @1 47½	$1 42½@1 47½

LOCAL STOCKS OF GRAIN.

Stocks of grain in near-by warehouses on Aug. 1 and Sept. 1:

Tons.	Aug. 1.	Sept. 1.
Wheat	23,586	*37,876
Barley	18,397	†40,585
Oats	634	1,780
Corn	285	458

*Including 11,496 tons at Port Costa, 22,330 tons at Stockton.
†Including 25,335 tons at Port Costa, 11,819 tons at Stockton.

Stocks of wheat in near-by warehouses on the 1st inst. show an increase of 14,290 tons for the month of August. A year ago there wore 33,955 tons of wheat in near-by warehouses.

Flour.

Stocks are not particularly heavy, hut are proving ample for the immediate demand at full current values. Desirable qualities and favorite marks are being as a rule very steadily held. There is some flour which has been on the market quite a while, mainly the product of Northern mills, and this stock is being urged to sale by some holders at comparatively low figures.

Superfine, lower grades	$3 25 @3 50
Superfine, good to choice	3 50 @3 75
Country grades, extras	4 25 @4 50
Choice and extra choice	4 50 @5 00
Fancy brands, jobbing	5 00 @5 25
Oregon, Bakers' extra	3 75 @4 25
Washington, Bakers' extra	3 75 @4 40

Barley.

Values in the open market were maintained at about same quotable range as during previous week, but for ordinary feed qualities there was no special firmness. Stocks in the Grain Board warehouses, including Port Costa and Stockton, were 40,600 tons on 1st inst., while in same warehouses a year ago there were 59,000 tons. Two vessels clearing on the 1st inst. took 5,600 tons harley for Europe, the clearance valuation of the two cargoes being $127,420. It is probable that of the ten ships now on the engaged list in harbor, most of them will take barley as part cargo. If the exports of this cereal prove anywhere near those of last season, there will he little or no desirable barley remaining in the State next June. At this time last year, however, over 50,000 tons of barley had been shippod, as against less than 15,000 tons up to date the current season.

Feed, No. 1 to choice	$1 07½@1 10
Feed, fair to good	1 03¾@1 06¼
Brewing, No. 1 to choice	1 12½@1 20
Chevalier, No. 1 to choice	1 20 @1 30
Chevalier, common to fair	1 00 @1 10

Oats.

Market has ruled steady for ordinary and firm for high-grade oats. Especially is the market strong for choice to select Blacks, suitable for seed, this description being difficult to obtain in great quantity. Some purchases at producing points are reported at the equivalent of $1.65 landed here. Stocks in city warehouses on 1st inst. were reported at 1,800 tons, as against 4,800 tons a year ago.

White oats, fancy feed, old	$1 35 @1 40
White, good to choice	1 30 @1 35
White, poor to fair	1 20 @1 27½
Milling	1 30 @1 35
Black oats	1 20 @1 60
Red, fair to choice	1 20 @1 45

Corn.

While there are no heavy quantities offering, stocks show some increase, 460 tons being reported in city warehouses on 1st inst., as against 285 tons a month ago, and 130 tons on Sept. 1st, 1903. Prices remain about as last quoted, and are slightly lower than at corresponding date last year.

Large White, good to choice	$1 45 @1 55
Large Yellow	1 45 @1 55
Small Yellow	1 60 @1 65
Egyptian White	1 35 @1 40
Egyptian Brown	1 25 @1 30
Eastern, in bulk	1 37½@1 45

Rye.

Offerings are not of large volume, neither is the immediate demand very brisk at prevailiug rates.

Good to choice	$1 30 @1 35

Buckwheat.

None on market. Choice could be readily placed at $2.25 or better per cental.

Beans.

Arrival of new crop beans thus far have been light and mostly whites. Some are held for higher prices than aro at present obtainable. Asking figures for Limas of last crop have been again advanced, and market for this variety is decidedly strong in tone. Parties who a few weeks ago were trying to depress Pinks aro now quoting them up. Black-eyes are ruling firmer. Stocks of beans in city warehouses and on seawall were reported at 54,500 sacks on 1st inst., and at 63,800 sacks a month ago.

Pea, fair to good, 100 lbs	$2 90 @3 15
Small White, good to choice	2 90 @3 15
Large White	2 40 @2 60
Pinks	3 50 @3 60
Bayos, good to choice	2 40 @2 55
Red Kidneys	4 50 @5 00
Reds	4 25 @4 75
Limas, good to choice	3 90 @4 00
Black-eye Beans	2 40 @2 55

Dried Peas.

Market is not heavily stocked with Green Peas, and there are scarcely any supplies of other kinds. Good to choice of all varieties are in request.

Green Peas, California	2 00 @2 50
Garbanzos, Large	3 25 @3 50
Garbanzos, Small	3 00 @3 25

Hops.

There are very few hops arriving or in stock here. Market continues decidedly firm. To purchase choice new freely at this date 30c or more would have to be paid. For some of select quality it is claimod that close to above figure has been realized in a limited way. There is little or no difference now in the price of 1903 stock and new hops. The following is the last review at hand of the New York Producers' Price Current: "Our local market is holding a very strong position with a further hardening tendency to values. Tho trading is not especially active, but stocks have worked into small compass and holders take a very confident view of the future. This makes a reserved offering, and brewers and dealers who want a few hops for current use are forced to pay higher rates for them. We are advised of some trading on the open market at 33@34c for fine quality State '03's and 29@30c for choice Pacific, with more now asked. Yearlings are very seldom found, and are somewhat nominal, while the older growths are also in very limited supply. In New York State some of the Seedlings have been picked. Some damage was done by severe wind storms, but well informed operators expect a larger yield than in 1903. One or two sales of West Seedlings are reported in the interior at 30c, and at the close we hear of bids of 31c. delivered in New York. No change in the condition of the Continental crop, which is light in most sections. Further damage is reported in England, and the estimates of the yield there have been reduced in some cases to 350,000 cwts."

California, good to choice, 1904 crop	26 @30

Wool.

Little wool is offering from first hands, and this is likely to be the case throughout the season. Much of the wool in the Northern counties will be pooled for salo in the interior. In other parts of tho State, dealers are on the still hunt, buying wool wherever a favorable opportunity presents itself. Market is in decidedly healthy condition, and there is little likelihood of any noteworthy weakness being developed for some time to come.

SPRING.	
Northern, free	22 @—
Northern, defective	17 @20
Oregon, good to choice	20 @22
Nevada	15 @20
FALL.	
Foothill	14 @17
San Joaquin and Southern, free	12 @14
San Joaquin and Southern, defective	8 @10
Southern lambs, as to quality	8 @14

Hay and Straw.

Choice Wheat hay is being picked up about as rapidly as it comes forward, with market for this description moderately firm at current values. With this exception, however, trado is of a dragging sort. Common qualities are in heavy supply, and prospects poor for anything like a clean-up in the near future. Straw is in ample stock for immediate needs.

Wheat, good to choice	$12 00 @ 13 50
Wheat and Oat	8 50 @ 11 00
Tame Oat, fair to choice	7 50 @ 11 50
Wild Oat	7 00 @ 10 00
Barley	7 00 @ 9 00
Alfalfa	9 00 @ 11 00
Compressed	10 00 @ 13 50
Straw, ₱ bale	40 @ 60

Millstuffs.

Supplies of Bran are on the increase, stocks in city warehouses on 1st inst. being 600 tons as against 450 tons on Aug. 1st., and 460 tons a year ago. Middlings are offering rathor freely and market is easy at last quoted decline. Rolled Barley and Milled Corn are being held about as last quoted.

Bran, ₱ ton	$20 00 @ 21 00
Middlings	24 00 @ 27 00
Shorts, Oregon	21 00 @ 22 00
Barley, Rolled	22 50 @ 23 50
Cornmeal	31 50 @ 32 00
Cracked Corn	32 00 @ 33 00
Oilcake Meal	31 50 @ 33 00

Seeds.

Thero is little doing in this department. Most kinds are in too limited stock to admit of any extensive trading. Quotable values throughout are without noteworthy change.

Alfalfa, Cal., good to choice	$14 00 @16 00
Flax	1 80 @ 2 35
Mustard, Yellow	3 15 @ 3 25
Mustard, Trieste	3 25 @ 4 50
	Per lb.
Canary	7 @—
Rape	1¾@ 2½
Hemp	3½@—
Timothy	5 @ 5½

Honey.

For choice to select water-white the market is unfavorable to the buying interest, stocks of this description being exceedingly light. Common grades are rather plentiful, and are not meeting with any very active demand, although as a rule thoy are being steadily held.

Extracted, White Liquid	6 @ 6½
Extracted, Light Amber	5 @ 6
Extracted, Amber	4 @ 4½
Extracted, Dark Amber	3½@ 3¾
White Comb, 1-frames	12½@13
Amber Comb	9 @11

Beeswax.

Spot stocks are of light volume. Demand is good and market is firm at provailing values.

Good to choice, light ₱ lb	29 @30
Dark	27 @28

Live Stock and Meats.

Beef was in very good request and for best qualities the market was firm at prevailing rates. Veal in prime condition was salable to advantage, stocks being light. Mutton and Lamb was in tolerably active demand, hut supplies proved ample for the requirements, and prices were without appreciable improvement. Market for Hogs was barely steady for desirable packing stock, and weak for small and soft, the latter kind being particularly difficult to place.

Allowing for the shrinkage of about 50%, which is exacted in buying cattle on the hoof, live cattle command as much or more per pound than dressed beef, the shrinkage exacted being the slaughterers' profit.

The following quotations for beef and mutton are based on prices realized by slaughterers from wholesale dealers:

Beef, 1st quality, dressed, net ₱ lb	5¼@ 6½
Beef, 2nd quality	4½@ 5½
Beef, 3rd quality	4 @ 5
Mutton—ewes, 6@6½c; wethers	6½@ 7
Hogs, hard grain, 140 to 200 lbs	4⅝@—
Hogs, large, hard, over 200 pounds	4½@ 4½
Hogs, small, fat	4½@ 4¾
Veal, large, ₱ lb	6 @ 7
Veal, small, ₱ lb	8 @ 9
Lamb, spring, ₱ lb	8 @ 8½

Hides, Skins and Tallow.

Nothing but select hides, clean and trimmed will bring full figures. Culls of all kinds, either from grubs, cuts, hair slips, side brands or murrain, are not always readily placed at the lower figures.

	Sound.	Culls.
Heavy Steers, over 56 lbs	— @10	— @ 9
Medium Steers, 48 to 56 lbs	— @ 9	— @ 8
Light Steers, under 48 lbs	— @ 8½	— @ 8
Heavy Cow Hides, over 50 lbs	— @ 8½	— @ 8
Light Cow Hides, under 50 lbs	— @ 8½	— @ 8
Stags	— @ 6	— @ 5
Wet Salted Kip	— @ 9½	— @ 8½
Wet Salted Veal	— @10	— @ 9
Wet Salted Calf	— @11	— @10
Dry Hides	— @16	— @15
Dry Kip and Veal, 11 to 16 lbs	— @13	— @12
Dry Calf, under 4 lbs	— @18	— @16
Pelts, long wool, ₱ skin	1 00@1 50	
Pelts, medium, ₱ skin	70@ 90	
Pelts, short wool, ₱ skin	40@ 65	
Pelts, shearling, ₱ skin	15@ 30	
Horse Hides, salted, large prime, each	2 75@——	
Horse Hides, salted, medium	2 50@——	
Horse Hides, salted, small	2 00@——	
Horse Hides, dry, large	1 75@——	
Horse Hides, dry, medium	1 50@——	
Horse Hides, dry, small	1 00@——	
Tallow, good quality	4 @4½	
Tallow, poorer grades	2½@3½	

Bags and Bagging.

Nothing of consequence doing in Grain Bags. Trade in Fruit Sacks and Wool Bags is of moderate volumo at practically tho same values as have been current for some time past.

Bean Bags	$ 4¾@5
Fruit Sacks, cotton	6¾@6¾
Fruit Sacks, jute, as to quality	5¾@7
Grain Bags, Calcutta, 22x36, spot	5⅛@5⅜
Grain Bags, San Quentin, ₱ 100	4 75 @——
Wool Sacks, 4-lb	32 @——
Wool Sacks, 8½-lb	30 @——

Poultry.

The wholesalo market the current week has not shown as much activity or firmness as many anticipated, the leading retailers having stocked up heavily through previous purchascs. Values for most kinds of good to choice poultry were, however, quito well maintained at much the samo range as prevailed the provious week. Medium size to full grown young chickens in fine condition received the most attention. Turkeys were in light request, and prices for both young and old averaged lower than last quoted. Ducks and Geese which were large and fat did not lack for custom. Pigeon market ruled steady but rather quiet.

Turkeys, Young, ₱ lb	$ 20 @ 22
Turkeys, live gobblers, ₱ lb	14 @ 15
Turkeys, live hens ₱ lb	16 @ 18
Hens, California, ₱ dozen	4 50 @ 5 00
Hens, large	5 00 @ 6 00
Roosters, old	4 00 @ 4 50
Roosters, young (full-grown)	5 00 @ 6 00
Fryers	4 00 @ 4 50
Broilers, large	3 00 @ 3 50
Broilers, small to medium	2 50 @ 3 00
Ducks, old, ₱ dozen	4 00 @ 4 50
Ducks, large young, ₱ dozen	4 50 @ 5 50
Geese, ₱ pair	1 50 @ 1 75
Goslings, ₱ pair	2 00 @ 2 25
Pigeons, old, ₱ dozen	1 25 @ ——
Pigeons, young	1 50 @ 1 75

Butter.

High grade fresh creamery was not in hoavy supply and was in good demand, market ruling firm at quotations, some favorits marks commanding from speciai custom slightly higher figures. Common grades of fresh did not sell freely and met with a weak market, buyers content with other than best fresh running mainly on cold storage stocks.

Creamery, extras, ₱ lb	26 @27
Creamery, firsts	24 @25
Creamery, seconds	22 @23
Dairy, select	23 @24
Dairy, firsts	22 @23
Dairy, seconds	19 @21
Mixed Store	14 @—

Cheese.

Domestic flats are being offered freely and market is easy in tone, especially for other than most select mild-flavored now. Market for Young Americas of choice quality continues firm, offerings of this description being light.

California, fancy flat, new	9½@10
California, good to choice	9 @ 9½
California, fair to good	8½@ 9
California, "Young Americas"	10 @11½
Eastern	10 @13

Eggs.

Fancy fresh were not very plentiful and brought tolerably stiff figures, but offerings of fresh showing irregular quality were heavy, as compared with the demand. Fresh eggs other than the very best had to come into competition with Eastern and cold storage eggs, offerings of which were ample for all demands.

California, select, large, white and fresh	33 @35
California, select, irregular color & size	28 @32
California, good to choice store	22 @26
Eastern firsts	23 @25
Eastern seconds	20 @22

Vegetables

Most kinds in season were in fairly liberal supply. Demand was tolerably active for desirable qualities and general tendency was to more firmness, although in quotable values there were no radical changes. Tomatoes sold at a wide range, owing to great difference in quality.

Onions were in lighter receipt and slightly better demand.

Beans, Lima, ₱ lb	2	@	3
Beans, String, ₱ lb	1½	@	3
Cabbage, choice garden, ₱ 100 lbs	75	@	1 00
Corn, Green, ₱ crate	75	@	1 50
Cucumbers, ₱ box	25	@	50
Egg Plant, ₱ box	30	@	50
Garlic, new, ₱ lb	3½	@	4½
Okra, Green, ₱ box	30	@	60
Onions, Yellow Danver, ₱ ctl	1 00	@	1 25
Peas, sweet garden, ₱ lb	3	@	4
Peppers, Green, ₱ box	30	@	60
Summer Squash, ₱ box	25	@	50
Tomatoes, box	25	@	65

NOTE.—Large boxes are what are known to the trade as "pay boxes," which have to be returned or paid for. They are open top, with hand holes in the ends, and weigh when filled from 50@60 lbs gross. Small boxes are free boxes, about the same as the regular fruit box, weighing when full from 20 to 30 lbs. gross.

Potatoes.

With fair shipping demand during part of the week, and local trade of good average proportions, the market showed improvement, not especially in quotable values, but in general condition. Previous accumulations were reduced to tolerably small compass. Sweets were in fairly liberal receipt and market not noteworthy for firmness.

Salinas Burbanks, ₱ cental	90	@	1 25
Potatoes, white, ₱ cental	60	@	90
Early Rose, ₱ cental	75	@	90
Garnet Chile	75	@	90
Sweet Potatoes, ₱ lb	1½	@	1½

Fresh Fruits.

Demand has been brisk most of the current week for nearly all kinds of fresh fruit showing fine quality, and the market presented a generally firm tone for good to choice offerings. Apples of fine quality met with ready sale at full current figures. Gravensteins and Bellefleurs were most in favor, although other seasonable varieties possessing merit did not lack for attention. The Bartlett Pear season is nearly ended; choice are bringing improved figures. Peaches are in greatly reduced receipt and a considerable proportion of present offerings are from Oregon. Plums and Prunes were in less excessive supply than for some weeks preceding and brought better average prices. Grapes were in free receipt and inclined in favor of buyers, both table and wine stock. Wine Grapes were mainly from Fresno section. A few choice Zinfandel brought $20 per ton, but the market was not quotable over $18, with carload lots offering down to $15 per ton. Melons of all kinds were in improved request and market was firmer. Choice Berries were in good demand.

Apples, Gravenstein, ₱ 50-box	1 10	@	1 50
Apples, good to choice, 50-lb. bx	1 00	@	1 25
Apples, fair to good, ₱ box	65	@	1 00
Blackberries, ₱ chest	2 00	@	4 00
Cantaloupes, ₱ crate	75	@	1 50
Crabapples, ₱ large box	75	@	1 25
Figs, Black, 2 layers	50	@	1 00
Figs, Black, ₱ drawer	30	@	50
Figs, White, ₱ small box	35	@	60
Grapes, Black, ₱ crate	40	@	60
Grapes, Muscat, ₱ crate	40	@	75
Grapes, Seedless, ₱ crate	40	@	65
Grapes, Tokay, ₱ crate	50	@	75
Grapes, Isabella, ₱ crate	60	@	85
Grapes, large open boxes	50	@	1 25
Huckleberries, ₱ lb	7	@	9
Nutmeg Melons, ₱ box	40	@	60
Peaches, freestone, ₱ pay box	90	@	1 75
Peaches, freestone, ₱ free box	50	@	85
Peaches, Clingstone, ₱ free box	75	@	1 25
Pears, No. 1 Bartlett, ₱ 40-lb box	1 00	@	1 25
Pears, Bartlett, No. 2, ₱ box	50	@	85
Pears, Bartlett, No. 1, ₱ ton	30 00	@	35 00
Pears, Seckel, ₱ box	40	@	75
Pears, Winter Nelis, ₱ box	75	@	1 25
Plums, Large, ₱ box	50	@	90
Plums, fancy varieties, ₱ 20-lb bx	75	@	1 25
Plums, in bulk, ₱ ton	8 00	@	15 00
Prunes, ₱ box	40	@	65
Quinces, ₱ box	40	@	70
Raspberries, ₱ chest	5 00	@	9 00
Strawberries, large, ₱ chest	2 50	@	5 00
Watermelons, ₱ doz	1 25	@	4 00

Dried Fruits.

Not many Aprcots offering, and market is firm, especially for the higher grades. Apples are in light supply, and for early deliveries of new prime to choice the market is rather favorable to the selling interest. Pears are not arriving in large quantity, and there is no probability of the market being glutted with this fruit the current season. Peaches are in fair supply, mostly of the better grades, there being few standards; values are ruling decidedly steady, and business of tolerably large volume. Plums of any sort have not thus far made much of a showing, and values are not very well defined; choice to fancy pitted, particularly large red, would doubtless meet with a tolerably good market. Nectarines are in very moderate stock, and the demand likewise of rather limited proportions. The prune market continues to drag, despite the lowest asking prices ever on record. The steamer Umatilla, sailing on Saturday last for British Columbia, carried 79,175 pounds dried fruit, including 32,500 lbs. Prunes.

EVAPORATED OR BLEACHED.

Apples, 50-lb boxes, rings, pressed, good to choice	5½@ 6¼
Apples, extra choice to fancy, 50-lb boxes	6½@ 7
Apricots, Moorpark	8 @11
Apricots, Royal, good to choice, ₱ lb	7½@ 8½
Apricots, Royal, fancy	9½@10½
Figs, 10-lb box, 1-lb cartons	50 @65
Nectarines, Red, ₱ lb	5 @—
Nectarines, White and Yellow	5½@ 6
Peaches, unpeeled, good to choice	5¾@ 6½
Peaches, unpeeled, fancy to extra fancy	7½@ 8½
Pears, standard, ₱ lb	5½@ 6
Pears, choice to fancy	7 @10
Plums, Black, pitted	5½@ 6½
Plums, Red, pitted	6½@ 8
Plums, Yellow, pitted	6½@ 7½
Prunes, Silver, good to fancy	4 @ 7
Prunes, in bags, 4 sizes, 1⅝@1¾c; 40-50s, 3½@3⅝c; 50-60s, 2⅞@3c; 60-70s, 2⅜@2½c; 70-80s, 1⅞@2c; 80-90s, 1⅝@1½c; 90-100s, ⅞@1c; small, ⅝@½c.	

COMMON SUN-DRIED.

Apples, sliced	3½@ 4¼
Apples, quartered	3¼@ 4¼
Figs, White, in bulk	2½@ 3½
Figs, Black	2½@ 4

Raisins.

With matters unsettled between the growers and packers regarding the transfer of the carry-over stock, there is practically no wholesale market for the time being and values are wholly nominal.

The following quotations are based on prices at packing points for carload lots of 1904 crop, October delivery:

	50-lb. cases, Per lb.
Standard Grades—	
2-Crown Loose Muscatels	2⅞c
3-Crown Loose Muscatels	3⅜c
4-Crown Loose Muscatels	4 c
Seedless Loose Muscatels	2½c
Seedless Sultanas, Unbleached	3½c
Seedless Thompson's, Unbleached	4½c
Woodland Sultanas, bleached	3½@5 c
Woodland Thompson's, bleached	4½@8 c

SEEDED.

Fancy 16-oz. Cartons, ₱ lb	5½c
Fancy 12-oz. Cartons, ₱ pkg	4¼c
Fancy Bulk Cartons, ₱ lb	5 c
Choice, 16-oz. Cartons, ₱ lb	4¾c
Choice, 12-oz. Cartons, ₱ pkg	3¾c
Choice, Bulk Cartons, ₱ lb	4½c

Citrus Fruits.

Late Valencias are in fair supply, and are being held at a narrower range of values than lately quoted, but demand is not active. Lemon market is showing steadiness for desirable qualities, the inquiry being more active than for some weeks preceding. Limes are not in very heavy stock and are being quite steadily held.

Oranges, Valencias, ₱ box	2 00	@	2 75
Lemons, California, select, ₱ box	2 50	@	——
Lemons, California, good to choice	1 75	@	2 25
Lemons, California, fair to good	1 25	@	1 75
Grape Fruit, ₱ box	2 00	@	3 00
Limes, Mexican, ₱ box	4 50	@	5 00

Nuts.

Almond market is without special change; stocks are now largely in the hands of dealers, with prospects of all being disposed of before the end of the year. Foreign Walnuts are reported offering in New York for November delivery at 9@12c., as to kind, duty paid, the higher figure being for choice Grenobles. Stocks of Peanuts in this center are light and market is firm at the quotations.

Nonpareil Almonds	14 @16
I X L Almonds	12½@14½
Ne Plus Ultra Almonds	12 @14
Languedoc Almonds	9½@10½
Peanuts, fair to prime	5 @ 5½

Wine.

The wholesale market is quiet, and while without appreciable change in quotacle values, is lacking in noteworthy firmness. Free sales are not possible at full current figures, nor are buyers able to operate freely at inside prices. A New Orleans dealer was in this section the past week trying to secure dry wines of last vintage at 15c per gallon in carload lots, but he did not meet with success. At the same time, under selling pressure, 15c per gallon for dry wines of 1903 would be a good figure to realize. For selections as high as 18c is being asked in a wholesale way. For sweet wines of 1903 the price is 30c per gallon at wineries. Receipts of wine at San Francisco for August were 1,143,450 gallons, and for last week 272,600 gallons, as against 241,600 gallons for preceding week. The steamer City of Panama, sailing Sept. 2, carried 52,084 gallons, including 49,850 gallons for New York.

Produce Receipts.

Receipts and exports of leading cereals and other California products for the past week and for the season to date, as compared with the corresponding time the previous year, are as follows:

FOR THE WEEK.		Since July 1, 1904.	Same time last year.
Flour, ¼ sks	64,498	938,803	1,132,952
Wheat, ctls	100,579	346,373	386,124
Barley, ctls	56,422	562,579	1,361,879
Oats, ctls	26,202	176,639	277,857
Corn, ctls	624	17,319	22 925
Rye, ctls	1,053	9,767	13,776
Beans, sks	4,438	31,323	22,643
Potatoes, sks	39,890	221,693	229,812
Onions, sks	5,286	27,563	31,982
Hay, tons	7,073	49,927	50,825
Wool, bales	1,467	11,347	11,589
Hops, bales	149	402	1,935

EXPORTS BY SEA.

FOR THE WEEK.		Since July 1, 1904.	Same time last year.
Flour, ¼ sk	169,248	741,748	781,244
Wheat, ctls	21,157	43,021	125,813
Barley, ctls	165,270	280,001	922,365
Oats, ctls	256	4,306	6,330
Corn, ctls	598	2,651	3,438
Beans, sks	423	4,990	4,031
Hay, bales	6,113	30,821	35,686
Wool, lbs	.....	704,522	1,260,659
Hops, lbs	1,315	7,489	63,904
Honey, cases	2	331	183
Potatoes, pkgs	2,487	15,788	16,002

New Patents.

DEWEY, STRONG & CO.'s SCIENTIFIC PRESS PATENT AGENCY, 330 Market St., S. F., has official reports of the following U. S. patents issued to Pacific coast inventors:

FOR WEEK ENDING AUGUST 23, 1904.

768,257.—DISK HARROW—G. H. Adams, Phœnix, Ariz.
768,167.—COLLAR BUTTON—L. Blake, S. F.
768,420.—CARD CASE—W. S. Bracktie, Oakland, Cal.
768,509.—COIN CONTROLLED APPARATUS—A. F. Bradshaw, Bieber, Cal.
768,519.—BOX LID SUPPORT—A. E. Cox, Ashland, Or.
768,122.—LAMP BRACKET—E. D. Hamilton, Vancouver, Wash.
768,363.—CLOTHES RACK—J. H. Harrell, Seattle, Wash.
768,280.—OIL BURNER—Hitchings & Ellsworth, Corralitos, Cal.
768,366.—SURFACING MACHINE—N. Hughes, Portland, Or.
768,367.—OIL BURNER—Hunt & Mirk, S. F.
768,368.—OIL BURNER—Hunt & Mirk, S. F.
768,369.—GAS WASHER—Hunt & Dole, S. F.
768,185.—TELEPHONE—J. W. Kurtz, S. F.
768,471.—HARVESTER—L. B. Mack, Walla Walla, Wash.
768,472.—THRESHER—L. B. Mack, Walla Walla, Wash.
768,292.—ANIMAL TRAP—G. J. Miller, Walla Walla, Wash.
768,478.—STOOL—P. Nash, Salem, Or.
768,138.—CONVERTING MOTION—E. C. Northrup, Riverside, Cal.
768,139.—HOOP TIGHTENER—H. Notthoff, Santa Monica, Cal.
768,479.—ELECTRIC LAMP—D. O'Brien, S. F.
768,483.—COPY HOLDER—J. L. Rivers, Seattle, Wash.
768,155.—OIL BURNER—T. Simon, S. F.
768,156.—TIE PLATE—J. Sneider, Buckley, Wash.
768,164.—MATCH SCRATCHER—C. R. Wilson, Bossburg, Wash.

APRICOT CROP.—Santa Paula Chronicle: The apricot crop is harvested, sacked, nearly all sold, and is being rapidly shipped out of the county. More apricots are on the move in Ventura county than ever before at this season of the year. The output was considerably smaller than last year, while the prices obtained are higher. This will more than overbalance the shortage of the crop. Last year there was something like 130 carloads raised of twelve tons to the car. This year close estimates have been made—the output 100 cars of twelve tons to the car. Last year the price obtained was 5 to 6 cents per pound. This year 7½ to 8 cents is being paid.

FALL WOOL SALES.—Marysville special to Sacramento Bee: The Wool Growers' Association of Yuba and Sutter Counties has decided upon Saturday, September 24th, and Saturday, October 22d, as the dates for the first and second sales, respectively, of the fall clips of wool. This year the sheep owners will have two sales instead of one as heretofore. It was argued that sometimes a good market is not secured at a single sale, and the mountain and valley men were almost a unit in favor of two sales for both spring and fall clips. A suggestion was made that each district organize and hold their sales independently of one another, announcing each their date, and inviting Eastern as well as coast buyers to be present and make offers. No action was taken, however. All sales are to be held in Marysville.



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Bright's Disease and Diabetes News.

Law Offices of Henley & Costello.
San Francisco, Jan. 20, 1904.

To the legal profession of California:

I was a witness to the following: About two years ago Prof. Yost of Palo Alto who was in an extreme condition due to advanced Bright's Disease, came to my office. He was attended by his physician who was himself a victim of Diabetes. The object of the visit was to meet a prominent business man who had for months been investigating an alleged cure for Bright's Disease and Diabetes, and hear his verdict. He declared that the claims were fully proven and that the cure had been discovered. Both Prof. Yost and his physician at once adopted the treatment. Within six months both were so well along toward recovery that they considered themselves beyond danger and at this date neither Bright's Disease nor Diabetes hold any terrors for them, and the physician is successfully using the treatment in his practice.

Learning that my old law partner, Judge R. R. Bigelow, for many years Chief Justice of the State of Nevada, had Bright's Disease and that though he had had four or five of our best physicians, yet that he had had to give up practice and was in a serious condition, I lost no time in telling him of the above. It resulted in his complete recovery and he is again back to active practice. As to the curability of chronic Bright's Disease and Diabetes I have no more doubt about it than that I am living.

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ARBORICULTURE.

Ornamental Trees at Fresno.

An admirable account by Mr. Charles E. Jenny in the Fresno Republican will carry suggestions to our new readers in the iuterior valley of trees which they can make use of in the tree planting which they should certainly undertake as soon as possible in their dooryards:

There may seem a surplus of the umbrella trees (Melia Azederaeh umbraculiformis), but these were necessary to obtain quickly a thick shade. The umbrella tree and the French elm (Ulmus campestris) are in the greatest numbers, the latter a very handsome and effective shade tree when trimmed high, and probably the best we have. The eucalyptus is represented by several species; south of the courthouse is a very large blue gum, in the lowest forks of which may be seen a squirrel cage and bird houses. There are other large ones of this variety scattered about. On the north side are two remarkably tall and slender trees (Eucalyptus cebra), which, though growing on comparatively low ground, tower above the other trees. Narrow-leaved iron bark is the common uame of this species. Its bark is thick, rough and persistent, unlike the ever-shedding bark of many eucalyptus trees. The leaves are loug and narrow. It is one of the highly valued timber trees of Australia and its wood is very durable underground. The fruit is small, about $\frac{1}{8}$ of an inch long and obeonic. In the United States Departmeut of Agriculture Bulletin on Eucalyptus Cultivated in the United States, is a plate from photograph illustrating the row of these trees that grows along the path just south of the courthouse, looking toward the water tanks, and the statement that they grow vigorously in Fresno.

The three species of palms most common to Fresno are all here—the tall Washington filifera, the spreading Phœnix canariensis, and the graceful winding palms (Chamaerops excelsa) in the center gardens. The Black Wattle (Acacia mollissima) is represented by several specimens, as is also the Blackwood (Acacia melanoxylon).

Just in front of the courthouse, ou the north side, grows a red pomegranite (Punica granatum), while on the south side is the white species (P. granatum alba). Right by the steps is Nicotiana glauca (the tree tobacco), one of our native shrubs, in blossom now. To the southwest of the courthouse grows one of the finest specimens of Eriobotrya japouica (the loquat) to be seen in Fresno. The spread of its branches is wonderful, and it seems as if, at the horizontal angle they take, they could not support the weight of foliage they uphold. Here in the winter months, when it is in blossom, the fragranee, sweeter and stronger than that of the orange, will attraet you from a long distanee, and you will see a continuous hovering of humming birds about the showy elusters of white, five-petaled flowers. The leaves are evergreen here and of thick, erumpled texture, dark green and glossy. The tree is always a shapely one, and with its golden fruit makes one of our most ornamental lawn trees. The fruit has a pleasant acid taste. The name is from the Greek, and means "woolly cluster," referring to the rust-covered wool about the flower cluster. Near by is a Magnolia grandiflora. South of the courthouse are scattered several young oriental plane trees (Plantaus orientalis), noticeable for their large maple shaped leaves and whitish bark.

Back of the band stand grow several black walnuts, all bearing well iu season, but not very ornamental trees in shape. Near the southwest entrance is a catalpa tree (Catalpa bignoniodes), bearing in the spring great elusters of handsome white and yellow flowers, but now pendent with long, bean-like pods a foot or so long. The seeds are flat and in pairs, enclosed in silky membranous wings and arranged elosely packed next to the outer surfaee of the pod, the center being occupied by a fleshy, pith-like cylinder. This is one of the few American plants that have retained their Indian names. The wood is coarse-grained but durable and suitable for fence posts.

Many round-trimmed bushes of Euonymus japonica aurea stand along the pathways, filling in spaces between the trees with their shiny evergreen foliage; while around the palms cannas form a green eover, enlivened by the brilliant red or yellow flowers. The erape myrtle (Lagastræmus indica) is profuse in its handsome blossoms in the East gardens, and also a species of tree mallow.

Convicts on the Road.

A movement is on foot among automobilists and others, says the Sacramento Union, to bring before the Legislature at its coming session the question of improving the country roads. Communications have been sent to hold-o er senators asking their aid in the matter and suggesting that they draw up a bill to be presented at Sacramento.

Advocates of the improvement of the roads draw attention to the advantages they would be to the farmers who use the roads in their business, as well as to automobilists and others who use them mainly for pastime and exercise. It is proposed that the betterment be effected by the use of conviet labor.

One of the foremost advocates of the movement is A. C. Rulofson of San Fraucisco. He says:

"It is not alone automobilists like myself that favor good roads. Good roads are of vital importance to the farmers, who, with better roads than we now have, would save time in the delivery of their products and save wear and tear on their vehicles. Their very existence depends to a large extent upon good country roads, and they should join in the movement now being made by the automobilists to improve our highways.

"The work should be done by convict labor. There are a couple of thousand convicts in Folsom and San Quentin doing little work. If they were put to work on the neglected roads it would give them desirable work, would compete with nobody and would greatly benefit the entire State."

Miller County Proposed.

It is reported from Fresno that if Henry Miller, the cattle king, can persuade the next Legislature to his way of thinking, Central California will be possessed of a new county, which will be named upon the map as Miller county. Miller plans to expend half a million dollars in publie improvements, including a $150,000 sandstone court house.

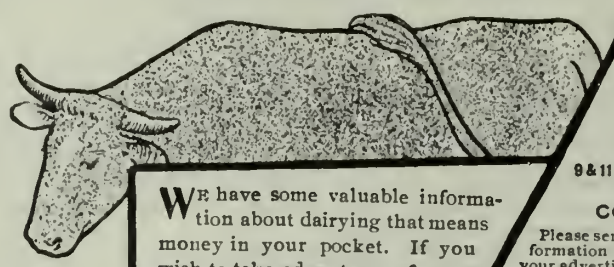
The new county is planned to be built out of the western edges of Fresno, Merced and Stanislaus counties, most of the acreage of which is owned by Miller & Lux. The cut would bring Los Banos in the center of the strip, and it is plauned to make that town the county seat. The division line would be the Fresno slough and the San Joaquin river.

Miller is willing to put up all the county buildings and furnish the ground for the buildings. In all, he would expend and give away $500,000. He would open up some of his immense holdings for small farmers. First, however, he would build an irrigation system that would make the change of his grain fields to fruit ranches a possibility.



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AGRICULTURAL SCIENCE

The Farmer's Son.

It seems necessary to repeat with considerable frequency that agricultural colleges do not educate their students away from the land. Farm boys who leave these institutions or other schools and engage in mercantile or professional life, instead of returning to their homes to become practical farmers, either have divorcement from the soil gradually forced on them or possess an innate desire, which should never be suppressed (if it could) to follow another occupation.

To trace the influences which largely are responsible for the decreasing desertions of farms by the young men reared on them is to go directly to their homes. Education away from the farm begins at that period in the boy's life when he is introduced to tasks and toil that are as far beyond his youthful strength as they are irksome and monotonous. A wearisome routine, which we need not analyze, supplemented with despotic restraints against which any normal boy will instinctively rebel, are wholly capable of making a village or city clerk of the lad who might otherwise honor the vocation stigmatized by his father.

Long hours of hard work, scant cash allowances, if any, denial of social pastimes, shoddy clothes, unsanitary, illkept, bookless, cheerless rooms in which to sleep, and the absence of partnership interest in his father's business are the sufficient factors which render farm slavery extremely repugnant to an ambitious boy. Dislike for agriculture is a perfectly natural characteristic of the young man brought up in these circumstances. Eagerness to escape from this form of serfage and enjoy some of the liberties and pleasures which other fields seem to offer is a part of his education on the farm. Every year of his prosaic life strengthens his early formed conviction that the lot of a farmer is unspeakably hard. Participation in the farming operations in consideration of very few clothes and three meals per day and a place to sleep soon strikes the reflective boy as a very one-sided case of reciprocity.

Literally there are boys whose reasons for wanting to leave their farm homes are quite similar in foundation to those of the ancient bondsmen who constantly sought liberation from the hand of regal oppression. Wherefore the conclusion is inevitable that most of the country boys who seek city life with its larger opportunities for the expression of their real selves do not leave the land so much from inherent choice as from compulsion. They are not drawn away by the attractions of urban life, but driven away by the unreasonable hardships, deprivations and hollowness to which they are subjected on the farm.

Just in proportion to the progress of agricultural education has been the decrease in the cityward movement of young men reared on farms. Farmers who know how to treat their livestock and their land know how to treat their sons. Good stock is almost invariably found in the possession of good men, and it is significant that on stock farms sons succeed fathers in cases, as history tells us, to the fifth and sixth generations.

There is only one way for the farmer to make a farmer of his son: That is to make him first his confidant and then his business partner as soon as the boy can appreciate this relation and share its advantages, pecuniary and otherwise. Assumption of responsibilities at an early age creates an interest and resourcefulness in the boy which are absolutely essential to his success as a farmer. At 21 years of age a farm raised boy ought to have had at least six years of practical business experience as a farmer. Instead the probabilities are that at his age he knows farming only as the hired man knows it. He has worked only with his hands. He knows nothing of the receipts and expenditures of the farm, only he knows that precious little has been expended on him. He perhaps does not know how to fill out a blank draft or attend to any of the most rudimental affairs connected with the business of the farm.

A farm boy cannot have proper interest in his father's business unless he is first told all about it and has a part to play in its management. Enjoying an intimate knowledge of its affairs and sharing the profits as well as losses of the farm and treated with the consideration and respect to which as a partner he is entitled, a farmer's son will never have the inclination or an excuse to abandon the land unless his health should require a change. It is an easy matter to keep the boys on the farm where there is not a constant though unconscious effort to drive them away. —The Breeders' Gazette.

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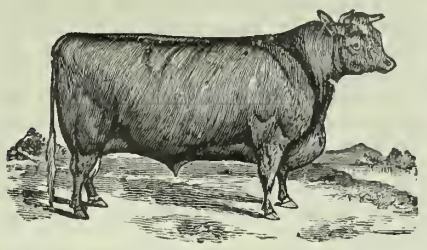
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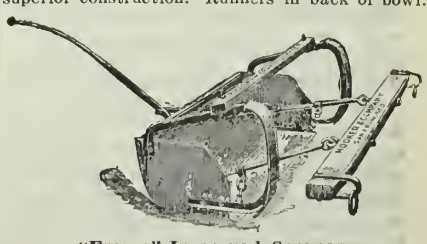
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Grange Meeting.

To the Editor:—Tulare Grange met at its hall on Saturday, the 3d. After reading and approval of minutes of previous meeting Brother and Sister Tuohy were elected alternates to the State Grange to be held in Oakland on the first Tuesday in October.

A communication from the secretary of the State Grange notifying that an amendment to the constitution of the State Grange will be considered at the next meeting, changing the date of meeting from the first Tuesday in October to the first Tuesday in December, was read and laid over for further consideration.

The committee on free market law, proposed, made a partial report through its chairman, Brother Davis. Laid over to give members time to inform themselves better on it.

A committee of three was appointed to report at next meeting resolutions of respect and regret on the death of Brother A. H. Brigham, Past Master of the National Grange.

The Farmer's Duty.—The subject of the day, "What is the duty of the farmer in the management of local affairs, including churches, schools and roads?" was taken up. The subject was opened by Brother Shoemaker reading a well-writen paper on it. The subject was discussed with spirit by most of the members present. All agreed that good citizenship is the first duty of the farmer; that all local and public affairs should receive his best attention; that churches are our best and safest means of inculcating a high moral standard and cannot be dispensed with; that schools are the essential to a preparation for manhood and womanhood, and for all the duties of life, and this preparation which we receive in our schooling is essential to a high standard of civilization and must be promoted and advanced; and good roads is an indispensable condition to well doing of our locality, to success in farming, and to the attraction of our farm homes.

Alfalfa.—Three questions were drawn from the question box:

First—"Is Tulare and vicinity suited to the culture of alfalfa and for dairying?" All coincided that in no part of the State. as far as their experience and observation goes, does alfalfa do better than in the vicinity of Tulare.

The rich damp soil of the delta of the Kaweah, where Tulare is located, and the salubrity of climate stimulates a growth and gives a nutritive value to the crop that is never surpassed and not often equaled elsewhere.

The certainty of crop, the very large yield and the nutritive value of alfalfa makes it the king of forage crops. This, with the certainty and salubrity of climate, makes Tulare and vicinity a most desirable dairy locality.

Second—"What does average alfalfa land rent for per annum?" From the experience of those present—some who rent alfalfa land and some who crop it themselves—average alfalfa land is worth, any year, $5 per acre or more. If the renter does not make enough from it to pay that rent, it is because he does not put it to the right use. One brother stated he has eight acres of average alfalfa. He has this year, in four cuttings, secured 27 loads, and has another cutting and then pasture left. But it was also stated that constant pasturing greatly injures alfalfa, tramping down the land and by close cropping killing the alfalfa and letting the foul weeds grow. All agreed they would prefer to rent their alfalfa land to a tenant who will mow the crop and remove it from the soil for $5 an acre rather than rent to the tenant at $8 per acre who constantly pastures it.

Third—"What crops have yielded best this year?" All joined in saying alfalfa. Notwithstanding that worms and grasshoppers greatly injured the first crop, subsequent growths have done so well that it is still the most profitable.

The meeting was well attended and the discussions were spirited and interesting. J. T.

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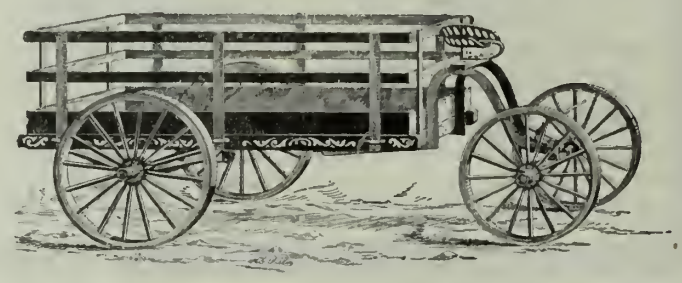
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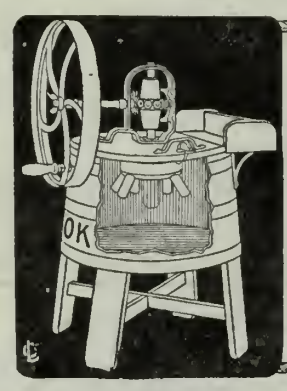
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THE IRRIGATOR.

No Right to Take Water by Tunneling Below a Stream Bed.

In a lengthy opinion handed down last week by the Supreme Court, and outlined by the Chronicle, it held that percolating water from a stream, drawn into a tunnel penetrating the porous strata adjacent to the stream, belongs to the stream; that it is a part of the natural flow and must be treated as such. The interesting and intricate question arose in the appeal of the case of the Montecito Valley Water Co., plaintiff and appellant, also respondent, vs. the City of Santa Barbara et al., defendants and respondents, also appellants. The case contains many minor questions of law and matter of damages, the latter being sent back to the trial court for determination. But as regards the percolating waters, the lower court is sustained, upholding the contention of the plaintiff as against that of the defendants.

The water company proved ownership of 15 miner's inches of the natural flow of the Gold Springs branch of Montecito creek. At different times the defendants drove three tunnels upon lands owned by them and contiguous to the creek. The portals of these tunnels were above the bed of the stream, were driven through the native rock following generally the line of the creek and the main branch. While starting above the level of the creek, as the tunnels were driven with slighter incline than that of the natural flow of the creek, they soon were developed below the line of the creek bed.

The contention of the plaintiffs was that the direct effect of these tunnels was to lower the plane of saturation and to withdraw water theretofore naturally flowing in the creek into the tunnels, thus permanently impairing and reducing the supply to which it was of right entitled. They asked for an injunction and for monetary compensation for the value of water of which it had already been deprived. Cross appeals were taken by all parties to the judgment of the lower court.

Drew Away Water.—The records show that the plaintiffs did not object to the driving of the tunnels to develop and take all new waters they found, but contended that the effect of the tunnels below the line of the surface of the flowing stream is first to draw into the tunnels the waters of the stream and thus create a direct draft upon the flow of the stream itself, so that it no longer follows its natural course, but sinks into the lower tunnel, which practically, efficiently and absolutely forms new channels in the place of the original surface stream. That effect was denied by the defendants.

After a lengthy dissection of the various findings of the lower court in the case, the Supreme Court practically sustains the plaintiff's premises in the main question by saying:

"It must suffice to say that the evidence justified the court's conclusion that the tunnels did draw into themselves a part of the natural flow of the creek. But it is contended that, even so, these waters were percolating waters which had so far left the stream as to have lost their distinctive character as part of its flow within the meaning of Vineland Irrigation District vs. Azusa Irrigation Company, 126 Cal., 486, where it is said that percolating waters 'may either be rain waters which are slowly infiltrating through the soil, or they may be waters seeping through the banks or bed of stream which has so far left the bed and the other waters as to have lost their character as part of the flow.' But, in that case, it is further said: 'If, upon the other hand, the taking of this water by the plaintiff, as the court so finds, creates an artificial draft upon the surface flow of the stream, draws down part of it and weakens and injures the natural bed of the stream and tends to interrupt and carry away from the defendants the surface flow, and to deprive them of it, * * * defendants are entitled to an injunction to restrain this illegal interference.' This last quotation presents the case declared by the finding, so that it is not a new proposition in this State, nor is it a new decision to declare that one who has no legal right to the surface flow of the stream may not, by indirection, acquire that right by a subterraneous tapping and taking of it."

AGRICULTURAL ENGINEER.

Trolley for Transporting Farm Products.

In many sections of the country, says the Orange Judd Farmer, farm products have been handled by trolley freight very successfully. Electric freight trains loaded with fruit are running on the International railway, between Buffalo and Olcott Beach, N. Y. In addition to the trolley freight car, an electric locomotive is also used to good advantage on this road. They pull usually sixteen to eighteen loaded freight cars at one time and have carried as high as twenty-four cars on a trip. The average speed is 30 miles an hour. The engineer manipulates the power very much the same as an ordinary street car is handled. The International put into use about three years ago a system of trolley freight cars for handling fruits and vegetables along their line. The first year two cars were operated. This season the number to the train has been materially increased. They are of the ordinary express car type, 32x6½ feet, and furnished with a motor similar to that used on the ordinary street car.

Fruits and produce from points along the line of the International, consigned to places on steam railroads, are loaded in the same manner and treated in the same way as when handled by steam roads. The only difference is that the cars are driven by electric engines instead of the steam locomotives. There is considerable fruit traffic between Olcott Beach and Buffalo, all of which is carried on the electric trolley system. The rate is 40 cents per 100 pounds. A special equipment for carrying peaches and other products is necessary. The cars are constructed and fitted with racks and shelves that make it possible to load 1100 baskets of peaches on a car.

The electric motor carries six to ten carloads of fruit of this sort at one time. It is carried from the point of shipment to the market in Buffalo over the tracks of the local city system. This is done very early in the morning, before the street railway traffic begins. The railway company delivers the fruit by cartage from the cars to the consignee's premises. The cost of this delivery is included in the transportation rate quoted above.

Peaches of the most delicate varieties have been carried by trolley freight and delivered in the Buffalo markets and other places in perfect condition. The service has been satisfactory, on the whole, to farmers and is gaining in popularity. The fact that produce can be delivered late in the evening, reaching the market early in the morning, has a decided advantage over the old system conducted by the ordinary steam roads.

Now that the express motor car is a permanent institution, farmers have been looking for some device which will carry wagon loads of fruit, vegetables and other farm products unbroken direct to the market. The freight motor car does not provide means and facilities for cheap transportation of bulky loads of farm products, household furniture, etc. The express motor car does not eliminate the excessive cost at the city terminal of cartage and trucking, except where it is included in the rate. Farmers in most places, however, are not as fortunate in this respect as those along the line of the International railroad. The question of a 25-mile haul or less from the farm to the city over the trolley rail should be a small expense. This has been largely overcome by a car or device on which loaded wagons can be transported from the farm to the market unbroken. These are really combination road wagons and railway trucks, horses being used in the street and on highway and electric power substituted on the rail tracks.

Combination wagons of this sort are being successfully used in Ohio, Michigan and some other States. Trains have been operated on schedule time and run at the rate of 40 miles per hour, on which are attached these combination wagons. The wheels are constructed with wide tires, and while the wagon is made light in pattern it has a carrying capacity of from 2 to 8 tons. The rail truck consists of a strong framework of steel and iron, a single platform for two axles, provided with one or two series of dogs or stops. These stops are so constructed as to spring into position and clamp the axle of the wagon. The clamps are operated by hand levers. Wagons of this sort are easily placed in position and any number of them can be connected as a regular train and carried into market by the trolley.

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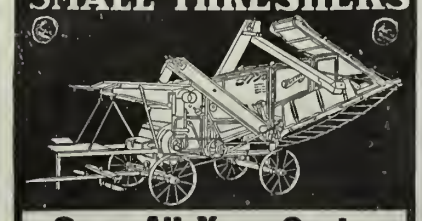
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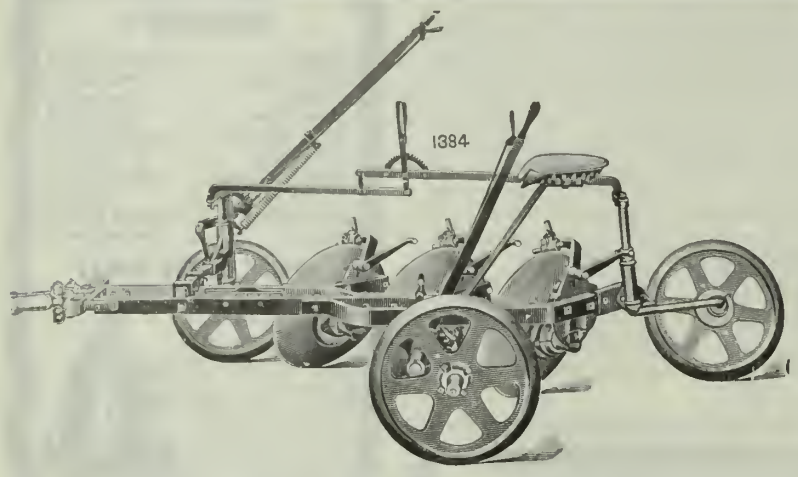
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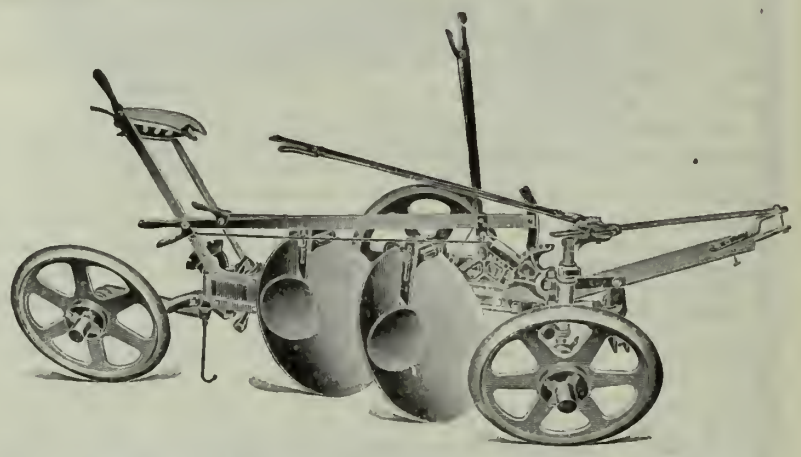
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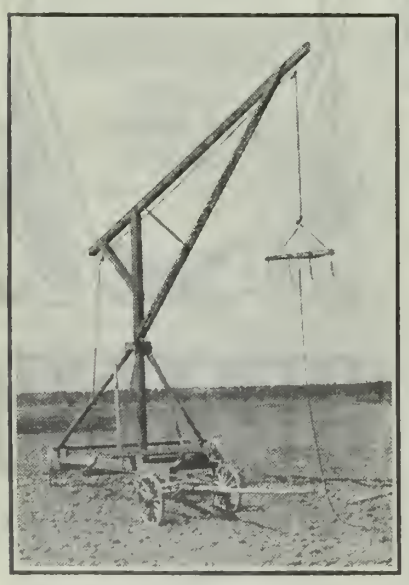


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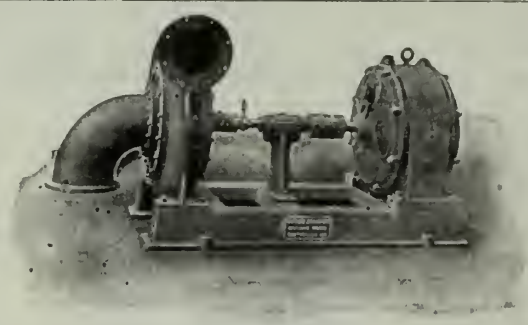
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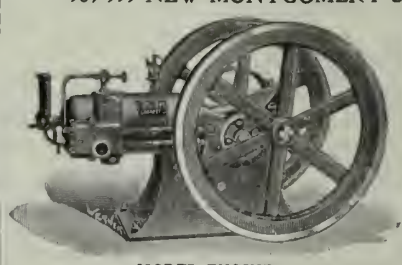
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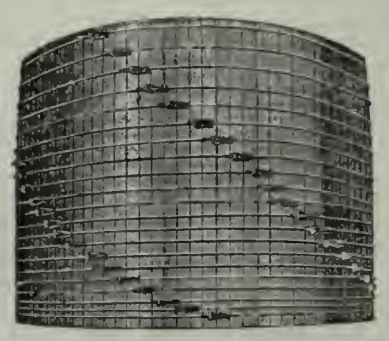
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The Redwood Forest.

There is so much that is appalling in the forest fires which have broken out in different parts of the State during the last fortnight that it must be commendable to draw some comfort from the situation, if possible. We find it in the reflection that the redwood forest is practically fireproof. This should be remembered when one reads the distressing accounts of the destruction of the great State forest of redwoods in Santa Cruz county. The redwood forest does not burn, though it may lose its underbrush and be scant of vegetation for a year or two. The wood is not resinous, and, besides that, it is protected by its thick fibrous bark, so that, though fire may be distressing in many ways, it does not destroy the redwood as it does the pine, firs, etc.

It is indeed comforting to know such grand trees as are shown in the engraving are self-protected against fire. This scene is in Humboldt county and is taken from the elegant souvenir of the Eureka Times:

Nothing can be more awe-inspiring and impressive to the visiting stranger than to rest in the midst of some choice body of redwood, where the trees stand densely, reaching upward 200 and 300 feet, and sometimes 400 feet, completely shutting out the sparkling rays of the brightest day and casting the shadows of twilight around their bases. These immense trees now stand the most remarkable monuments of vegetable growth in the known world. Gigantic in size, symmetrical and straight as an arrow, firmly planted and strongly rooted, they appear as the unmoved, unchanged sentinels of the passing centuries, except that they grow larger, taller, more grandly majestic as the centuries pass.

In the development of this western shore, redwood has filled a most important place, and the history of its first application and rapid adaptation to nearly all the requirements of structural work is most interesting and unique. Early in the last century the Muscovites who settled at Fort Ross and at Bodega bay undoubtedly whipsawed considerable quantities of redwood, the stumps and sawpits remaining to this day as proofs of the fact. Although but few evidences in the shape of sawed lumber are now extant, yet it is a fact that redwood posts are still standing in the ground in these localities, which are as sound as the day they were set up.



Boiling Spring Used for Sheep Dipping Plant in Nevada.



In the Redwood Forest of Humboldt County.

Natural Sheep Dip.

It is not in every country that nature furnishes the flock owner boiling water with which to prepare a bath to free his sheep from the scab mite. In Nevada, however, this is the fact, and in other places on this coast also hot spring water is used by the sheep men. The picture on this page shows a hot spring in eastern Nevada, described in Bulletin 55 of the Agricultural Experiment Station at Reno. The chutes and dipping tank are in the background, while from the spring leads out the ditch in which the hot water flows to its point of use. Around the spring is the white incrustation resulting from the evaporation of the water, but such salts are not enough for the dipping medicine. The hot water serves, however, as a ready solvent for the ingredients of the dip.

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The Week.

Since the hot wave and the change to a cooler, heavier air the talk is of an early coming of the rains, and there is apparently reason for it. Aerial things are unsettled, showers are likely to ensue and it behooves people to cover up things as much as possible. Southern California leads in the rains this year, and, though the upper part of the State does not get much from that direction, it is likely that the signs are wide for disturbance. Just as soon as things can be covered in, a good, soaking rain will be welcome. Trade and other things need brightening up a little, and rain is the best thing to do it with. Prices are generally good, and if the farmer can feel that he has everything favoring his effort to get hard at work to grow something with which to capture the prices, he will feel better and the whole community will feel the warmth of his optimistic zeal. Therefore, let it rain soon and rain hard enough to make something new—not simply a little to destroy what we now have.

The local sensation of the week is the capture of San Francisco by one of the Czar's warships from Vladivostok. The capture was made without firing a shot; a little salute powder was all that was required. It is fortunate that the disaster did not occur during the conclave, for it would have been a distraction which would have annoyed the programme committee. This week, however, it is a little dull, and the Russian maneuver will keep us alive until the Odd Fellows bring another grand stimulus to the municipal nerves. The current report is that the Russians will remain; the officers to act as a fresh lot of social lions and the 500 sailors as an accession to the population of the State, secured without wear and tear upon the Promotion Committee.

Chicago wheat rushed up 7c a bushel since our last report, and San Francisco wheat followed to the extent of 1¾c per cental; then Chicago dropped 2½c per bushel and San Francisco sympathized to the extent of 1½c per cental. On the whole, then, wheat futures have a net gain during the week, while spot wheat is unchanged, but firmer in feeling. Barley is in the same way. More is doing in ships, for one has been taken for wheat at 21s 3d and two for barley at 23s 9d. One clearance of 3000 tons of barley, with about one-tenth as much wheat for ballast, has been made. Beans are unchanged; some new pinks have been sold, subject to cleaning, at 3c, but old pinks are held considerably higher than that. Bran and middlings hold firm, though stocks are large. Hay receipts are less, but the market is merely steady. Beef and mutton are unchanged and large veal advanced. Hogs are about as before; arrivals are free, but packers are at work. Fancy fresh butter is firm; common fresh has no advantage over storage and Eastern. Cheese is in heavy supply and buyers are slow. Fancy fresh eggs are scarce, but common fresh are not sought for. Poultry is in lighter receipt and there is less demand, which is mainly for chickens, which have sold fairly. Potatoes are going north; supplies are large but are firmly held in second hands. Onions are steady but not active. Tree fruits, except apples, are in small receipt and firm. Wine grapes are rather weak and favor buyers, but table varieties are selling fairly. Oranges are slow. Lemons are still holding up well to the advance they secured during the hot spell and limes are higher. Dried tree fruits, except prunes, are in good shape and prunes are moving. About a quarter of a million pounds of dried fruits have gone out during the week—about half prunes. The raisin situation has improved a little as the old stock has been put upon a better basis. Almonds are held high, but holders do not take more stock except at much lower figures. Walnut prices are not yet announced. Honey is firm and unchanged. Hops are crowding up continually and holders are confident. Wool is strong as ever, but nothing is offering here.

Those who desire a short course of instruction along scientific and practical lines should give heed to the announcement by the University of California offering a term in the dairy school of eight weeks, beginning October 11, and a term of six weeks in general agriculture, horticulture, viticulture, entomology, animal industry or nutrition, or selections from each of these general subjects. These offerings of short agricultural courses by the University is unique in the number of instructors and in the variety of the subjects presented by them. Twenty-three instructors will conduct a total of fifty different courses. Of course, each student can only take a fraction of the courses, but the range for choice is wide, and every one ought to be able to find something of particular interest. The courses are free: the student has only to meet the cost of subsistence and small expenses for books, material used in the laboratories, etc. Any one seventeen years of age or upwards who has a common school education is eligible to enter the short courses without examination. The University is going as far as it can to supply the instruction needed by young or old who are engaged or interested in agricultural pursuits, and every such person should apply to the Agricultural College at Berkeley for the pamphlet, full of information, which can now be had for the asking.

At the meeting of the Regents of the University this week the President announced that Professor Ralph E. Smith, the pathologist of the Agricultural Experiment Station, has succeeded in developing an effective method for the prevention of the destructive asparagus rust—a pest which has threatened the whole industry. Most of the great asparagus fields of the Sacramento river delta have been kept entirely free from rust this season by methods recommended by the University, at practically no extra expense to the growers, while in fields not similarly treated the rust is present and abundant. At Sacramento a most complete demonstration has been made in the way of fungicidal treatment for badly infested localities, treated and untreated fields standing side by side, under natural conditions in every way identical, the one perfectly green and healthy, the other black and dead. Prof. Smith has gone East for a month to complete his study of the asparagus rust by comparing the methods which he has developed here with the latest results achieved at other agricultural experiment stations. We shall have ere long a detailed account of measures successfully employed to arrest the rust.

QUERIES AND REPLIES.

Alfalfa in Orchards.

To the Editor:—One point upon which I would particularly like to have information is on the planting of orchards where alfalfa is already growing. What space of clear ground would you advise allowing the trees if the remainder could be allowed to remain in alfalfa without injury to the trees where the water supply is ample?—K. B. G., Reno.

As for growing alfalfa in orchards there has been too little of it done thus far to talk about, and most of the orchards covered with alfalfa are located in mountain region in the extreme north of the State, in Lassen county for instance. In Arizona there is considerable alfalfa grown in orchards for the purpose of covering the land from the summer heat, and the alfalfa is mown and allowed to lie upon the ground to dry and disintegrate and finally to become part of the soil itself. It is probable that this practice, which has already been introduced in orchards in the hot parts of California, may be much extended where irrigation is available so that neither the alfalfa nor the trees shall suffer for water, but very little has been done up to this time. The California plan of clean cultivation of orchard land still generally prevails, even in irrigated districts. The conclusions, however, from such limited observation as we have had is that it is perfectly feasible to grow alfalfa continuously in the orchard, providing water enough is applied to meet the needs of both plants. Whether the alfalfa shall be mown and carried away for feeding to stock, or whether it shall be allowed to remain to enrich the soil is a question which better experience must determine. So far, where alfalfa is grown in orchards there is no cleared ground maintained; the plant is allowed to grow up to the base of the tree, excepting where the irrigation is done in furrows alongside the row, and in this case the alfalfa is, of course, somewhat interfered with. You will have to proceed with an experiment of your own, simply taking the general assurance that it is possible to grow the alfalfa without injury to the trees if water is abundant.

Cucumbers Under Glass.

To the Editor:—I am about to construct a greenhouse for the purpose of growing cucumbers. Will you kindly give me a remedy for the grub or maggot and other pests that cut the roots of plants in raised beds if well fertilized with well rotted horse manure; also, advise me if there is anything better than nicotine fumes for the sucking pests, and if so, what? What per cent of manure, or how many shovelfuls of dirt to one of manure, would you deem sufficient considering the land as worked out, but of a sandy, disintegrated granite nature?—Enquirer.

The experience of those growing vegetables under glass seems to be that the tobacco vapor is best of all recourses for destroying the aphis. The waste tobacco should be moist enough to prevent blazing, but should burn slowly and liberate a large amount of smoke. The treatment for ground pests has perhaps not advanced at all from the old gardener's method of using chimney soot in the hill or drill with the seed, and a sprinkling of this seems to discourage the action of maggots. The sprinkling of powdered copperas (sulphate of iron) is also commended. The generation of insects will be, of course, largely reduced by the use of a thoroughly decomposed manure, and, unless you need the fermentation for heating purposes, this is the proper way to prepare it. With such a well decomposed manure it would be safe to use one shovelful to about five of ordinary earth, taking care, of course, that the two are thoroughly mixed.

The Corn Ear Worm.

To the Editor:—Is there a remedy to kill or prevent worms in sweet corn? They spoil a large part. In Washington and the Eastern States there is nothing like it.—New Comer, Stanislaus county.

The worm which you find in the ears of corn is the same one which enters the cotton boll at the South. It is an insect which does not exist in quantity, at least in northerly situations. For this reason you did not strike it in Washington, nor in the Eastern States. Unfortunately, no successful way has yet been found to prevent the destruction by this worm. Our entomologists and corn growers have the subject constantly in mind and are on the outlook for adequate remedies, but have not yet found them. As

the period during which the insect works may be somewhat limited, the common experience is that the later sowings of sweet corn are less liable to injury, and so it may be that later in the season you can get sound ears.

Curing Corn Fodder.

To the Editor:—Please give me some idea as to the proper method of curing corn fodder, and especially as to what stage it should be cut so as to get the most nutriment and still have it palatable for the stock. I have been saving my issues of the Pacific Rural Press for over two and a half years but cannot find anything in them upon the subject; and as nothing has appeared in your paper recently in regard to it, perhaps it might be of timely interest to other readers of your valuable paper, as well as to myself, if you publish the information.—Subscriber, Guerneville, Sonoma county.

Both careful experience and chemical test agree that it is advisable to allow corn to become quite well matured. For dairy purposes, unless the succulence of green fodder is especially desirable, the fullest value is attained when the lower leaves are yellow but the husk still green. The largest amount of fod der is obtained by allowing the grain to become well ripened and at that time the amounts of sugars and starches in the fodder are at their maximum. The large, coarse dent varieties should, however, be cut at a little less maturity than the flint varieties. The corn should be cut and shocked quickly after it has reached the proper maturity, and should be put in large shocks as soon as dry enough; this depends upon the weather. Fodder allowed to stand uncut, or when too much exposed to the air after cutting, loses considerably in nutritive value.

There is little discussion along this line in our columns, for corn is a small affair in California, and a large part of that grown is fed green or put into the silo. Your county is one of the greatest corn counties in the State.

Lippia on a Dry Bank.

To the Editor:—Lippia plants do not do well on a dry bank of sandy soil unless well watered. We wanted it to cover this ugly bank, and it has only grown about a foot in a year. Can you tell me how long it will be until the bare ground is hidden ?—Amateur, Los Angeles.

This is rather a hard question, for you do not tell how large the bare ground is and how far apart you set the plants. Lippia is not a rapidly running vine; it is a low shrubby growth with a spreading habit. It will undoubtedly grow more or less rapidly according to the amount of water that is present, and you can promote its covering of a bank which you wish to conceal by the use of water, and then when rapid extension has been attained the plant will endure with very little moisture. It is customary to place the small-rooted plants about a foot apart each way, and when this is done the ground is usually covered in a year, just as yours would have been if you had planted in that way. If you have larger intervals between the plants, you should make new plants from the old ones, and in that way minister to a rapid covering of the ground.

Lippia for Bed and Border Verdure.

To the Editor:—Lippia cuttings rooted before planting finally did well with me, though they were slow at starting. They were planted at intervals on a bank on the northeastern side of the house, and they now form a sheet of green upon it, covered with little white blossoms. They had no water, excepting rainfall, until we began to water the flowers above them. I am thinking of using Lippia instead of grass for a large circular bed surrounding a palm. Shall I start at the beginning of the rainy reason ? Shall I root the cuttings in a bed of sand or put them in place at once ? How near together should they be planted ? —Home Gardener, Santa Clara county.

The Lippia plant would serve very well for the circular bed of which you speak, providing you do not mind its being scant of verdure during the frosty season. Nothing makes so handsome an environment for the pound as blue grass, which will keep continually fresh if regularly watered and cut. The Lippia will, however, make a satisfactory show of verdure with very little attention, excepting during the time when its leaves are shed. The cuttings usually grow well if set out when the old plants stop growing in the early part of the rainy season and you can get cuttings with some underground growth attached. You would probably get a uniform stand of the plant more quickly by rooting the cutting in the propagating bed, if you wish to go to that extra trouble. Plants should be set about 1 foot apart each way, and will cover the ground during the first season under favorable growing conditions.

Cow Peas or Canada Peas?

To the Editor :—In sowing of peas on my orange orchard for fertilizer, should I sow field peas or cow peas? How many per acre? Should the peas be inoculated before sowing, and how am I to accomplish this? There has been but very few peas used in this section and I am very anxious to make the sowing of peas a success, and will be very thankful for any help you are able to give me. I see the following advertised: Field Peas—Canadian and Blue Prussian; Cow Peas—Whippoorwill, New Era and Black Eye. Which would you advise, and how many per acre?—Grower, San Bernardino County.

There is no question but that you should sow field peas, and not cow peas, unless you wish to get a summer growth. Cow peas are members of the bean family, and will not stand any frost. Field peas are true peas, and are hardy enough to endure such light frosts as we have in California mesas and valleys, and can therefore be counted upon to grow during the winter, and consequently can be sown in the fall and make a winter growth, which, as I understand, is what you desire. The Canadian field pea has thus far given the best results along this line in southern California. You do not need inoculation of the soil to grow them, and, if they are early sown, about fifty pounds to the acre should make you a good ground cover for plowing in.

A Dose for Crickets.

To the Editor:—I have a large patch of tomatoes which are being badly eaten up by crickets, and I do not know how to kill them. Please tell me a good way to get rid of them.—Subscriber, Healdsburg.

There is considerable injury by crickets being reported from place to place and they are just in the condition to do most harm. The remedy is poison, but it is unsafe to apply the poison directly to the plant while it is carrying a fruit like the tomato. Crickets will eat a poisoned mash just as grasshoppers and cutworms do, and so the poison can be placed on the ground and not on the plant. The following is Prof. Woodworth's description of the poison and its use.

The formula used quite extensively is: Bran, forty pounds; molasses, two gallons; arsenic, five pounds; water, about six gallons. The whole was very thoroughly mixed and applied by means of a spoon or paddle, about a teaspoonful near each plant. The formula is often varied, sometimes by using twice or four times as much arsenic, but the amount here given is amply sufficient to kill. The most important point in its preparation is the thorough mixing of the material. The poison may be well stirred into the liquid used, or even into the dry bran; but in either case the mixing must be thorough before the bran is wetted, for otherwise the mixture will not be uniform. The best method is to mix the ingredients in the same manner that mortar is hoed or shoveled. In the use of this mixture it is well not to lose sight of its poisonous nature. Stock are particularly liable to be poisoned, so every precaution should be taken to prevent their eating it.

Crickets and Fleas.

To the Editor:—Will you kindly tell me what will destroy crickets ? They are in our house to such an extent as to be a nuisance, and they eat into our clothing, too. Also, what remedy can you suggest for fleas ? We brought some young kittens into the basement and since then the room seems to be alive with them.—New Comer, Corning.

To keep crickets out of the house we should rely upon closing all crevices, screening, windows, doors, etc. We know no way to keep up with them if new ones can continually make their way in. For the flea-ridden basement we should sprinkle thoroughly with crude carbolic acid, one pound to five gallons of water, and then clean out the place thoroughly and keep out live stock of all kinds.

The Jordan Almond.

To the Editor:—What are the prospects for the Jordan almond? Is it an easy crop to handle or will it require more labor to harvest and prepare than other fruit crops? We put grafts into peach trees and they have made a fine growth.—Grower, Santa Clara.

It is too soon to tell what California will do with the Jordan almond. It seems very promising so far, but our experience with it is too short to warrant conclusions as to its bearing in different situations. It can probably be handled like any other almond crop, except that it will not need sulphuring to bleach the dark color from the shell, because it can reach the consumer in the form of clean kernels. Whether then the grower shall undertake to produce these, or sell the nuts to be cracked by the buyer, the handling will be a little easier, owing to the lack of need of bleaching; beyond this, we doubt if it is possible for any one to see into the future of this variety.

WEATHER AND CROPS.

Report of the U. S. Weather Service for Week Ending September 12, 1904.

Alexander McAdie, Forecast Official and Section Director.

Sacramento Valley.

The weather during the week was clear and hot, with abnormally high temperature for three days. Grapes ripened rapidly and harvest continued. The crop is unusually heavy and the grapes are of superior quality. Prune picking and drying are progressing; the fruit is generally of excellent quality and the yield nearly average in most sections. Apples are ripening and in some of the foothill districts will yield a fair crop. Citrus fruits continue in fair condition, with indications of a large crop. Almond harvesting is progressing. Hops are yielding a large crop, excellent in quality. Corn and potatoes are thrifty.

Coast and Bay Sections.

Extremely hot weather prevailed in all sections a part of the week, followed by cool and foggy weather at the close. The record for high temperature was broken in San Francisco and other places. Fires caused great damage to pasture and timber lands and the heat injured grapes in some places. Grape picking is progressing rapidly and large quantities are going to markets and wineries; the crop is one of the best for several years. Fruit drying is nearly completed. A good crop of prunes has been harvested in many places, but the yield is generally below average. Apples are of good quality, but the crop will be light in most places. An unusually large crop of almonds is being gathered in San Benito county. Hops have yielded a large crop, excellent in quality; picking and baling are still in progress. Corn, potatoes and garden products are doing well. Bean harvest continues.

San Joaquin Valley.

Clear and warm weather prevailed during the week, which was favorable for fruit drying and raisin making. Some early picked grapes are nearly ready to turn on the trays. Good progress is being made in harvesting and drying the raisin crop, which is large and of excellent quality. Large shipments of table grapes continue and wineries will commence operations this week. Slight damage is reported in some sections by grapes drying on the vines. Prune picking and drying are progressing rapidly and an excellent crop will be harvested. Almond harvest is nearly completed; the crop is light, but of good quality. The fourth crop of alfalfa is nearly all cut; the quality and yield are good. Large shipments of potatoes are being made from Stockton and vicinity. Stock are in good condition and healthy.

Southern California.

Abnormally high temperature and clear weather prevailed during the week. Grape picking and raisin making are progressing rapidly; the yield is large and prospects are good for an unusually heavy crop of raisins. Fruit drying is nearly completed. Walnuts continue in good condition, except in places where water is scarce, and have commenced to ripen in some orchards, but picking will not be general for about three weeks. Citrus fruits are doing well where water is plentiful. The harvesting of beans and sugar beets continues. Alfalfa is yielding a good crop on irrigated lands. Plowing has commenced in some sections.

Los Angeles Summary.—Warm, dry weather continued; favorable for raisin making and bean harvest. Corn and general farm crops rather short in some localities. Strawberry acreage being largely increased.

Eureka Summary.—Foggy nearly all the week; temperature about normal. Apples are being gathered; crop very light, but quality far superior to average. Pea thrashing has begun.

Rainfall and Temperature.

The following data for the week ending 5 A. M. Wednesday, September 14, 1904, are from official sources and are furnished by the United States Weather Bureau for the Pacific Rural Press:

California Stations.	Total Rainfall for the Week	Total Seasonal Rainfall to Date	Total Seasonal Rainfall Last Year to Same Date	Average Seasonal Rainfall to Date	Maximum Temperature for the week	Minimum Temperature for the week
Eureka	.00	1.19	.82	.88	66	46
Red Bluff	.00	.10	.00	.39	104	58
Sacramento	.00	.06	.00	.17	102	56
San Francisco	.00	.08	.00	.19	100	52
Fresno	.00	.00	.00	.15	108	56
Independence	.02	.03	.00	.18	92	58
San Luis Obispo	00	T	.00	.20	106	52
Los Angeles	.00	16	00	.08	96	62
San Diego	T	T	.00	.12	84	68
Yuma	T	.81	.04	.59	100	70

HORTICULTURE.

Pruning Apple Trees.

By C. H. Rodgers of Watsonville, President of the Santa Cruz County Horticultural Commission at the University of California Farmers' Institute at Capitola.

Among orchardists probably no question has caused as much discussion and controversy as the subject of pruning. These discussions, together with the profuse literature on the subject, have brought out almost every phase and detail bearing on the work, so that the old adage—"There is nothing new under the sun"—is quite applicable in this case. This paper is not presented in the light of an attempt to give any new ideas on the subject of pruning, but rather as a brief review of methods generally pursued in pruning apple trees, together with a few facts and ideas relating to details which, it is thought, justify mention.

Conceded Points.—As no two trees grow alike, and no two persons think alike, there can be no set rule evolved or agreed upon for guidance in pruning. However, though differences of opinion as to best methods have existed in the past, and will continue without a hope of determining who is right, yet all orchardists agree upon a few points in common.

1st. The trunk should be trained to stand upright.

2d. The limbs should be so distributed that the burden will be borne as equally as possible on all sides of the tree.

3d. A sufficient amount of wood should be removed annually to prevent overloading and for the free admission of light.

4th. All diseased wood should be removed.

Since financial gain is the end sought in commercial apple growing, and the amount of profit depends largely on cost of production, one of the questions naturally arising in the mind of the orchardist is: "How can I most economically train my trees to secure the largest yield of choicest apples?"

Right here the divergence of opinion in pruning is manifested in the variety of methods pursued by the different growers.

Height of the Head.—Some decide upon the very low headed method, allowing the branches to start within a short distance from the ground. The advantages claimed in this case are: Cheapness in pruning and gathering the fruit, as much of this labor is accomplished without the use of ladders, less propping, as many of the limbs rest on the ground when loaded with fruit, protection of the trunk from sunburn, a shorter distance for sap to flow from root to branch, less danger of injury from winds.

The disadvantages claimed by those who do not favor this method are: Injury to fruit and limbs in attempting to cultivate; and as to the limbs, the damage not ending with the breaking or wounding, for these wounds afford an attractive harbor for injurious insects and disease.

Another objection raised is: Inability to properly cultivate on account of the limbs, and through lack of proper tilth, the soil moisture at the time most needed is lost, much to the detriment of fruit and trees.

Another extreme originally much in favor was to remove all branches from the trunk up to 5 or 6 feet. The only advantage claimed for this system was that of ease in cultivation, while the main objections are: Necessity of using high ladders in pruning and picking, danger of sunburn in affecting the trunk, liability of loss of fruit in high winds, difficulty in maintaining an erect, well balanced tree.

As a general rule, however, the great majority of growers prefer a medium between the two extremes just mentioned, and head their trees from 2 to 3 feet high to begin with, and then follow out their individual preferences as to number of main limbs, the angle at which these limbs should grow, the thinning out and topping of limbs, etc. A recount of these individual practices is not considered called for in this brief article and will not be attempted.

Local Climate a Factor in Pruning.—Climate, soil, location, and habit of the tree should be carefully considered and the amount of pruning regulated accordingly. A tree in a cool, moist climate, such as we have along the coast, should receive more thinning out of top than one growing in a dry, hot climate.

Trees growing on poor soil should have their growth curtailed more than those on rich soil.

If the tree is a light bearer it should receive either summer pruning or be pruned very lightly, if any, in winter.

Before beginning the shaping or pruning of the tree, the orchardist should form a mind picture of the future tree as he would have it, and then strive toward the ideal. While impossible to entirely control the growth, yet with proper attention much can be accomplished toward causing it to form to a definite plan.

To secure best results, with the least expenditure, should be kept in mind, in the question of pruning, as well as in other work necessary in orchard handling.

At best, it is an expensive and long drawn out task to bring an apple orchard to profit yielding.

How Many Branches?—With the inexperienced, a common and expensive mistake is made in allowing too many main limbs to grow. This is expensive in a number of ways. The superfluous limbs make added expense in pruning during the first few years, and generally another expense is added in sawing them out in later years. Again, the superfluous limbs grow at the expense of the tree by retarding the development of those limbs which only should remain.

Any number of main limbs above four or five is excessive.

The fewer number of main limbs, the stronger the individual limb. Again, the fewer main limbs, the cheaper the tree can be handled during the first few years of its growth, and this, too, without forfeiting any of its future usefulness or profit.

Even a two-limbed tree will produce all the fruit-bearing wood necessary or desired by the time it attains the full-bearing age.

It must not be implied that in the very early stages of bearing the tree which has but two or three main limbs will produce as many apples as the tree which has many limbs. The reason is obvious when it is understood that apples are not produced until the third year's growth of the limb.

Another fact which is interesting, though not of any special value, is this: A young tree if left entirely unpruned will produce more apples and attain larger size during the first seven or eight years than a pruned tree. This neglect, however, is at the expense of the future usefulness of the tree.

Very early bearing should not be the aim, but rather the plan should be to build up a strong tree, capable of withstanding a heavy burden when full-bearing period arrives.

A Plan Outlined.—To give a general idea of a simple and economical, yet successful, method for tree buildiug under ordinary conditions, a brief plan of procedure is herewith submitted:

First Year: On planting, cut the stem from 30 to 36 inches in height, with the terminal bud toward the southwest. In the spring, when growth begins, strip off all shoots from the ground up to about 20 inches. Above this point let all growth remain during summer. If for any cause during early summer a bud does not start where wanted, a short transverse cut through the bark just above the bud will cause it to develop into a limb.

Beginning of Second Year: Cut off all limbs except those selected to remain permanently. Two, three, four, and not more than five limbs, should be allowed to remain, the number depending on their position. It should be the aim to distribute them evenly on all sides, and to give all possible space between limbs up and down the trunk. This latter precaution is to give room for expansion of limbs in after years. Cut back the limbs that are to remain, taking off from one-third to one-half of the previous season's growth. If the tree is of a spreading habit, and it is desired to have it grow erect, cut to inner buds. If desired to spread the top cut to outer buds.

Beginning of Third Year: Allow two or three lateral limbs to remain on each of the main branches. Top the tree again, taking off from one-third to one-half the previous year's growth. Continue this method during the first four years, at which time the tree should begin to bear, and if surrounding conditions are favorable, it will prove strong, vigorous and capable of sustaining a heavy load of apples. The after treatment will consist mainly in keeping the top properly thinned.

Direction of Growth.—As all our fruit trees, with one exception, the apricot, make the strongest and most drooping growth on the northeast side, most of the cutting will be found necessary on that side. With some young trees it is often advisable in topping to cut to outer buds on the southwest limbs and to inner buds on the northwest side.

Following out the treatment to be given full-bearing trees under the methods submitted, the tree can be encouraged to either assume a spreading, drooping habit, or an upright growth.

The first can be brought about by the omission of props; the weight of limb and fruit will soon bring about the desired result.

The upright growth can be maintained by cutting off the drooping ends of branches, forcing the growth into up-growing limbs.

It should be remembered, to attain large size and high flavor, apples must have light, heat and be borne on young, vigorous growth. Judicious thinning out of brush is necessary if we would expect the choicest fruit.

Suggestions.—The tree should produce some new wood each year. Failure to do so is evidence of either lack of nutrition, over-bearing, pests or disease. As a preliminary treatment of either it is advisable to cut back and thin out limbs. In topping back large limbs care should be taken to cut close to strong lateral. There are two reasons for this: First. This lateral will take flow of sap and prevent business through development of adventitious buds. Second. If cut midway between laterals the limb is liable to be attacked and destroyed by disease.

Diseased wood, cross branches and water sprouts should all be removed.

In removing laterals, the cut should be made just at the outer edge of what is known as the collar.

The tools ordinarily used in tree pruning are small hand-shears, large two-handed shears and a small saw. The crescent pull-saw has become quite popular for this work.

In addition to these, a pair of shears mounted on a long pole is often a convenience in reaching limbs on tall trees.

Large wounds should be covered with an application which will prevent the entrance of disease germs. Grafting wax made in the proportion of one part beeswax, one part tallow and two parts resin is quite satisfactory. Coal tar and resin is used by some. This can be prepared by adding about three pounds of resin to one gallon of coal tar and boiling for two or three hours. This preparation, as well as the grafting wax, must be applied warm. Thick paint, made by mixing lead and oil, has proved perfectly satisfactory. Prepared paints are not safe, as they often contain ingredients injurious to the bark.

In conclusion, it is well to remember that henceforth the production of only choicest apples will bring prosperity to the grower, and if for any cause the orchard fails to produce, after due trial, the best, the sooner it can be uprooted the better for the owner.

Studies on the Occurrence of Walnut Blight.

Dr. J. Allen Osmun, of Venturilla Ranch, Rivera, has been studying his walnut trees to gain, if possible, some intelligent idea of the cause of "blight," and he expresses the belief, in the Whittier News, that if a large number of walnut growers make a series of investigations in regard to the vexed problem of the "blight," they may arrive at some solution.

In my own orchards I have adopted the following system of marking. Where I find nuts have fallen from a tree I mark it by tying a piece of red flannel to one of the limbs, if the number of fallen nuts is moderate; if excessive, I tie two pieces. My object is to note next spring the time of foliation and blossom of that tree, whether before or after the balance of the orchard; also to note, for a succession of years, whether the same trees are affected every year, or only occasionally. In addition to this experimenting, I have divided one of my orchards of twenty-five acres into blocks, and have used different fertilizers upon each block—lime being among the number. I have also used the dry Bordeaux mixture thrown onto the trees by a dust sprayer run by power.

Up to date I have made the following observations, although their value is undetermined, because it has only a year since their beginning. Last season I noticed a great many nuts which looked as if they had been stung by an insect; there was a hole in the hull, usually outside, surrounded by blackened and swollen tissue, and this tissue adhered to the nut after the hull was removed. This year such nuts are scarce. I also find practically no damaged new growth this year, and this fact I consider to be the most hopeful sign. The nuts which have fallen this year show the disease at the flower end, and even when the point of manifestation is almost imperceptible, the nut is completely ruined.

I notice that there is a uniformity of size running through the nuts fallen from the same tree, that is, under some trees all nuts dropped are small, under others large, showing that the dropping took place at a certain stage of development, and that before and after that stage the tree did not lose any fruit. Also, a tree which has an abundance of catkins hold the nuts with scarcely any loss.

There seems to be no disposition of the "blight" to act upon trees of given condition. Trees upon the same soil, under the same state of health and cultivation and of the same age, are affected entirely different. One tree that has come under my observation is a strong, sturdy tree, has made a beautiful growth this year, and has been well cared for, in fact it is the last tree I would expect to find affected, yet it is dropping a large percentage of its nuts, while next to it is a scrawny tree which appears to be dying, yet it has hardly lost any nuts.

As one may see from reading over these observations, it is very difficult to draw from them any conclusions that will "hold water." In fact, some of the most plausible theories concerning the "blight" seem to be contradicted by them. But to me they seem to point to defective pollenization. Whether it is lack of pollen, or failure of its distribution, or an abortive tendency of the trees themselves, that causes the loss of fruit, remains to be seen. Perhaps the remedy lies in certain treatment of the soil, perhaps in the way in which the trees themselves are treated. At any rate every grower should study intelligently and systematically the conditions in his orchard, and draw whatever conclusions he is able. And above all, let every one publish his views, that out of the mass of evidence we may find some clue to lead to the detection of the cause of the "blight" and its remedy.

Claims a Destroyer for the Codlin Moth.

It is claimed that an insect which destroys the codlin moth has been found in South America by George Compere, who is employed jointly by the State of California, through Horticultural Commis-

sioner Cooper, and by West Australia, to find beneficial insects that are born to prey upon those that are injurious.

The genuineness of the discovery is vouched for by the fact that the apple orchards that are the habitat of the newly found parasite bring 95% of their fruit to maturity. In California and in all other portions of the world hitherto the product of the world's apple and pear orchards has not been more than 30% to 35% of the promise at setting.

Mr. Compere has sailed from West Australia, acting under the direction of Elwood Cooper, to forward the first colonies of the codlin moth's tiny but invincible foes.

THE VINEYARD.

Co-operation in Viticulture.

Written for the PACIFIC RURAL PRESS by PROF. E. H. TWIGHT of the University of California.

HISTORY.—The origin of the co-operative winery can be found in Europe in countries where for one reason or another viticulture was going through a crisis. In California we saw, a few years ago, a good example of such influence when the Grape Growers' Association was formed; on the other hand the Raisin Growers' Association is also an attempt in the same direction.

The causes that start such societies are very numerous, and it may be interesting to examine a few of them.

In Germany the building of railroads enabled the importation of French and Italian wines that forced down the price of wine, and therefore forced the vineyardist to cut down his expenses. Unable to save on the cultivation of his land, by the use of machinery, for the steep hills and small parcels had to be worked entirely by hand, the vigneron turned for his saving towards the cheapening of the cost of making and marketing his wine. On the other hand, the habit of selling grapes to wineries had made them abandon their small fermenting houses and when the price of grapes went down they decided to form co-operative societies that would put up central wineries and cellars to handle the crop of the association and would thus do away with the middle men.

In Italy extensive vineyards were planted in the seventies while phylloxera was devastating the French vineyards for, during that period, Italian wine came into France under a very small duty. When France replanted her vineyards on resistant stocks, and the production became normal again, the viticultural interests were protected again by a tariff that shut out completely the Italian wines. Italy then having an enormous surplus, the vineyardists organized in order to be able to handle it.

In France the large crops obtained in the new vineyards (on resistant stocks) and the difficulty for a small wine maker to maintain a uniform type of wine for the trade are the main reasons that started the co-operative movement among the vignerons.

In California it was a similar reason that started the Grape Growers' Corporation that was formed some years back, the idea being to cut down the cost of production and to make wine of sounder character and more uniform types. The California Wine Association has done for the merchants what the growers' association failed to do for themselves. In the California Raisin Growers' Association the main objects are to cut down the expense of handling the crop, and to maintain a good price by cutting out competition.

In Germany the first "Weinbauwerein" or "Winzerverein" was started in 1868 in the Ahr valley with fifty members; to-day in the same valley we find twenty-five societies that have formed a central union at Ahrweiler, somewhat on the lines of the English and American Rochedale stores.

In Italy the first "Cantine Sociale" was founded in 1872, at Sondrio, and they are multiplying very rapidly, as the government encouraged them greatly, giving prizes to the best organizations, and helping, too, through the staff of its viticultural colleges.

In France they are only starting along these lines, and the agricultural societies are studying the question carefully and some of their best authorities are helping them.

ADVANTAGES.—We may say that the advantages of a co-operative society of grape growers are four fold:

Economy in Handling: Instead of having numerous small fermenting cellars, a lot of small plants, numerous crushers, presses, pumps, it is far cheaper to have a central plant having only one set of machinery.

Production of Uniform Types: Uniform types cannot be obtained unless we can blend the wine properly and handle them in large quantities. The cellar operations necessary for the production of such types necessitate the purchase of filters, pasteurizers and other machinery that a small producer can never dream of having. At the same time one of the largest savings in a central plant is in the reduced labor bill.

Possible Use of Experts: One of the great advantages that has resulted in the creation of co-operative wineries has been the possible use of experts to handle the fermentation and the cellar work, and also to give advice to the members of the association as to the care of their vineyards, the choice of varieties, the treatment of diseases. The expert in charge is generally called "Technical Director," or in Germany "Enotechnologist."

Credit: Last but not least is the question of credit. A small grower may not be able to wait for a good market condition, and the need of money may force him to sell at a loss. The association of growers, with its large credit, will enable the members to keep afloat until a good market is found. We will see how this side of the question is handled in Italy and Germany.

DIFFICULTIES.—But all is not smooth sailing in co-operative questions, and many difficulties are found in the way. The main ones are: 1—Difficulty in organizing. 2—Placing a price or valuation on the grapes.

The difficulties in organizing a viticultural co-operative society are of two sorts—(a) Moral; (b) Material.

(a). Farmers are not much inclined to help each other, and it is only when forced to the wall that they begin thinking that if their neighbor will help them they might be willing to reciprocate. The prospect of making money has also an attraction to many, and so we see in another branch of agriculture the co-operative creamery increasing in number every year all over the world.

Another moral difficulty is the conceitedness of many a viticulturist who thinks he is the only one to understand a vine or know what a wine is. The use of an expert whose authority or credentials are publicly recognized, and who is not a shareholder, smooths down this technical pride.

(b).—The society must only be local, that is, operate in a district where similar varieties of grapes and similar types of wines are found. To start, the greatest care should be given to the choice of members and the first board of directors; one crank in the first board may kill that first effort to organize.

VALUATION OF GRAPES.—This seemed at first the greatest difficulty in the way, and many societies were dissolved at first through the bad feeling that the solution of this point caused between its members.

The valuation of grapes is to-day based on:

(a) Sugar in must; (b) Acidity in must; (c) Variety of grape from which must comes (savor, color, return in juice).

Amount of Sugar—This is most important since the amount of alcohol in the future wine depends on it; generally an ordinary test with a saccharometer (Balling, Baume, Œshle) is sufficient with a correction of temperature at the time of reading. The quarrels started as to the value of the degree of sugar; there is no doubt that in a wine containing 14% in alcohol the degree of alcohol is worth more than in a 12% wine. These quarrels finally ended in the adoption of a sliding scale of prices above or below a certain standard degree.

Acidity.—The acidity ought to be taken into account; in sweet wine districts a low acidity is wanted in the must; in dry wine districts a must high in free acid is needed. So that a standard should be adopted for the acidity as well as for the sugar according to districts. To get a good fermentation in a dry wine district we must have a certain acidity in the must; if the must is deficient in acid we have to make it up, so that the value of such a must should be cut down according to the amount of acid that will have to be added to bring it up to the standard. As generally this must will be higher in sugar there will be a partial balance between the improved value due to the sugar and the decreased value due to the lack of acidity.

In the co-operative cellar connected with the Viticultural School of Cagliari (Sardaigne) the following formulæ are used:

$$d = a\,(b+c) \qquad U = \frac{V}{D}$$

d=Co-efficient of the grower.
a=Amount of must obtained (grape co-efficient).
b=Per cent of sugar in grape must.
c=Per cent of acid.
U=Standard unit of valuation.
V=Amount obtained from sale of wine.
D=Sum of all co-efficient.

Let us suppose three men T, D, H.

	Amount of Wine.	Sugar.	Acid.
T	50 Hectol	20%	.4%
D	100	18%	.6%
H	70	19.5%	.675%

T=50 (20+4) = 1.200
D=100 (18+6) = 2.400
H=70 (19.5=6.75) =1.8375

Suppose the sale of wine produced 3,327.75

$$U = \frac{3{,}327.75}{5{,}437.50} = 0.612$$

T=1200×.612= 734.40
D=2400×.612=1468.80
H=1124×.612=1124.55

Total.....=3327.75

So that for each hectoliter of must they received:

$$T = \frac{734.40}{50} = 14.68 \text{ francs.}$$

$$D = \frac{1468.80}{100} = 14.68 \text{ "}$$

$$H = \frac{1124.55}{70} = 16.07 \text{ "}$$

Now if the sugar alone had been taken into consideration the hectoliter of must of each grower would have been paid:

T—15.98 francs.
D—14.38 "
H—15.55 "

An easier method applied in other societies is to adopt a standard acidity for each type (Claret, Riesling, Port, Muscat), as well as a standard in sugar and add or deduct according to the market price of tartaric acid or sugar. If, for instance, 6 per thousand in free acid was a standard for above type, T would lack 2 per thousand, which would mean adding 19 klgs. of tartaric acid at 3 francs a kilo, or 30 francs that should be deducted from what would be coming to him if sugar alone was considered. These methods enable to pay for grapes at their just value.

WINZERVEREINE.—In the original Winzerverein of the Arthal the wine was not only made, but sold—at first the sales were made to wholesale houses—but they finally worked into a trade direct to the consumer (88,000 gallons). The value of land has doubled in the valley since this organization was started.

From the Ahr valley the societies have spread to the middle Rhine, Wurtemberg, Bade, Alsace, Switzerland, Hungary.

CANTINE SOCIALI. — These Italian co-operative wineries are generally on a larger scale than the German ones, and are more interesting to us. Some have a capital approaching $200,000, a very large capitalization for that country; they handle in those larger co-operative associations about a quarter of a million gallons. Some sell to the wholesale houses, others have their own retail stores in the large cities.

TYPES OF SOCIETIES.—The administration of a viticultural society comprise generally:

1—The general group of members forming the general assembly, meeting at certain times.

2—Board of directors elected by the assembly.

3—A president elected by the general assembly or by the board of directors.

4—A technical manager appointed by the board of directors outside of the society.

The members generally have one vote only, whatever may be the number of shares they own. The board of directors is not paid generally, unless it would be for the travelling expenses.

Experts for the testing of grapes are appointed outside of the society and are under the supervision of the technical director.

The technical director has charge of the wine making, the cellar, and advises freely the members of the society regarding the care of their vineyards, treatment of disease, time of vintage, etc.

The co-operative society is generally started as a stock company exclusively among vineyard owners of a same district. Societies of several districts may combine to have a central cellar for the handling, maturing, distributing.

Each land owner belonging to the society has one vote, but sometimes each share carries a vote (this is not advisable).

The profits are generally distributed 80% to the member and 20% to a reserve fund.

After the vintage the society advances to its members a certain amount of what is coming to them in cash if they have credit enough or in coupons negotiable at the local banks.

FRUIT MARKETING.

Decay of Citrus Fruit.

By T. J. ASHBY of Pasadena, at the University Seaside Institute at Long Beach.

This paper is written with the intent that, if possible, the outrageous losses by decay should be lessened if not largely stopped, and our smaller orchards placed on a practical and paying basis, with the maximum of profits and the minimum of loss. The methods of our best growers are known, and the results are known. Is it worthy of our beautiful industry that so large a number of our growers do not as yet obtain similar success?

We have in our citrus trees practically the most responsive of all commercial growths, intelligent care winning out in beauty and profits, and all success well deserved.

I have seen a Redlands grower budding over a seemingly perfect Navel orange tree because it did not bear 90% firm, clean skinned, fancy fruit. The fruit condemned, he said, was too soft and rich, he could not control size or keeping qualities, hence he rebudded from a tree that grew firm fleshed, clean skinned fruit. He set his price on the orchard and some time during the season he obtained it, for his fruit always packed to good sizes, had weight, color and carried like Valencias.

If all our orchards had such fruit according to

varieties, would 30,000 cars be too much for California's output or any complaint heard of overproduction?

We have some large lemon orchardists whose lemons store for months with slight loss, carry without iceing, bring the top prices, are preferred to foreign fruit and are sought for general excellence.

If California had 50,000 cars of such lemons, would the business be overdone?

Why do these gentlemen obtain deserved success, while other growers working perhaps as hard or harder, needing financial results more, do not in the hard, practical race for life obtain it?

Importance of Durability.—Is it in the man, in the orchard's location, in the color, in the flavor, in the general appearance of the fruit, or in the marketing? All of these are factors, especially the man, and much is in the marketing. But the fundamental difference between success and failure lies in the carrying power of the fruit.

Not alone in the dead loss by decay, but that decay's influence on the methods of marketing. If our fruit would carry like golf, tennis, croquet balls, they could be sold direct from the factory. If the fruit would carry like wheat, it could be sold like wheat, for spot cash. But with the decay and loss now incident to the industry, no sane man can or will speculate on diseased conditions without figuring on its value when delivered at his point of sale. But, if some of our growers as we have seen, have largely eliminated those conditions, the large majority by the same method can and will.

How to Begin.—For keeping qualities and desirable fruit we must begin with the nursery or gradually rebud what trees we have, using in either case only buds that we know come from such trees as we wish to reproduce. The apple orchardist is certainly in advance of us in his knowledge of varieties and the reproduction of good keeping fruits, from the juicy and rapidly maturing Duchess of Oldenburg to the slow maturing Astrakan, the Navel and Valencias of the apple orchard. He is always on the lookout for better keepers, and will regraft to that end. And as to his orchard methods, whoever heard of one fertilizing and irrigating to rush his apples to maturity and consequent early decay, that sequence being another law of life.

He has found out what we know and do not half practice, that the greatest care must be taken in handling the individual fruit, and that the fumigation of warehouse and boxes is another factor in success. What is the use of the latest methods of deep culture and irrigation if we turn out carefully matured fruit into careless hands for picking.

What is Decay?—The elements of decay are ever present. The laws of life and death are eternal. No rest—change is ever at work. The cut surface of an apple shows dark. There is an affinity of substances going on. Expose washing soda to the air, you can soon scrape baking soda from the surface. If you expose citric acid, lemon drops, or acidulated candies, they soon become milky white or clouded. They oxidize; in them we thus see fruit acids are inclined to voluntary decomposition, and that exposure to the air is necessary; in damaged fruit, let the air be humid and we soon see the production of infusoria, the supposed working bacteria of decomposition. The entire plant of the winery or vinegar manufactory turns to this process to produce its manufactured wines and vinegar. The handler of fresh fruits is working overtime to prevent it.

With a dry atmosphere and fit fruit, he is comparatively safe, even then with bruised, abraised or chilled fruit he will have some loss, but as his hydrometer falls from dry to normal, then to moist, he knows the flying spores will germinate on moist surfaces and the darker work of coming putrefaction (black rot) is at work in his heating box centers. We have not yet learned to fully combat it by the use of chemical absorbents to create our own atmosphere, to sterilize the trouble. Lime and other absorbents will aid. One per cent of vaporized formaldehyde to 100 cubic feet will materially lessen, but I think the use of an electric fan in a shaft from which a cotton hose goes to the center of things, will be the coming remedy.

Shall we face the per cent of loss by decay in transit, decay that occurs after all our painstaking care, or lack of it?

Significant Statistics.—The following tables tell the startling story, the story of handicap in selling your fruit, the shameful story of our negligence or lack of knowledge and the orchardist's crime against good merchandizing.

I have interviewed men who are daily watching the market returns and their replies concerning an estimate of the season's rot runs from 12½% to 16%. As near an estimate as can be made, based on the reports from several thousand cars, 23½% go through without loss, 3% decay being allowed; 31% go to auction with 14¾% decay, and the rest run the per cent to 10¼% decay To place the per cent of decay on the terms of years figured on, figures from which there is no chance of cavil, I make my deductions from 8% decay for all classes of citrus fruits for the past eight years.

To make the figures interesting, I place before you the actual amount of shipments and sales brought into evidence in a recent inquiry. From September, 1896, to July of this season, 65,270 cars were sold for $53,302,617—average $818.65 per car. The financial losses during that period were $13,620.17, or only $25 out of $100,000. The average loss by decay on fruits furnished the salesman we see is 8%, the grower furnishing the decay.

This means, throwing the financial loss and expenses into percentage, and for illustrating tree planting, out of every 100,000 trees planted, the loss was only 25 trees in planting the entire acreage, and the cost of planting was only at the rate of .0168 cent per hundred trees, while of the trees furnished 8000 had to be thrown out. I am familiar with the losses and running expenses of the wholesale grocery business, and if any wholesale dealer is present he will confirm me in stating, if losses and expenses were as light and sales as great, he could retire in two or three years.

To return to figures. Of the 65,270 cars sold, you furnished 1 in 12½ cars decays, the average sale per car for the series of eight seasons was $816.64—8% loss on the eight seasons' $65,270 cars at $65.33—over $4,500,000. No leak in running expenses, no leak in bad debts, but $4,264,209.36 deficit in your business and twice that, the Exchange only purchasing half the fruit, if not more in the last eight seasons' citrus industry in California. Eight and one-half millions—a million a year. If this year's business, nearly 28,000 cars say, averages $500 a car, being a bad season, 10% decay makes $1,400,000 loss. Do we like those figures, so plain, so true, so severe on our intelligence and business abilities? I leave the solution to you.

Points to Consider.—Three points I would like to see brought out in this discussion to help stop this wasteful decay in fruit.

First—In relation to selecting buds for nursery stock and rebudding from the fruit bearing limbs of fit trees, instead of from so many suckers, as has been instanced in olive and citrus tree reproduction.

Second—In relation to those methods in the orchard that prove available in retarding rather than forcing our fruit to maturity against the well-known law of "quick growth—early decay."

And, thirdly, In relation to those methods of gathering, handling, storing, packing and forwarding that conserve the life and render the fruit less liable to abuse and injury.

SHEEP AND WOOL.

The Western Mutton Industry.

Mr. C. J. Davis, whom the Breeder's Gazette considers great in his line as buyer for the Armours, gives that journal an interview from which we take parts which are suggestive in California:

The Mutton Industry.—Our sheep have been reduced in numbers, but the profitable character of the industry will doubtless cause a revival. I am confident of an unlimited supply of good quality mutton at American markets for the next year. Quality of Western products has not been as good in ten years and prices are highly satisfactory to the grower. Sheep and lamb skins are now selling higher than in twenty years, the former being worth 90 cents and the latter about $1, prices that do not generally obtain until October. Armour & Co. have not pulled a sheep skin in eighteen months for the reason that better prices can be obtained for the skins than by pulling and selling the stock.

Wool is the backbone of the sheep industry, and when that staple sells high production is invariably stimulated. Present conditions may prompt the breeding of more fine wool stock, but our flockmasters are too sagacious to be swayed by what may be a temporary influence. Some sections of the range, especially Idaho, which have gone to a mutton basis, will stay there. Idaho is making a business of raising choice lambs, and when they can be marketed at $7.40 per hundred, the record this season, the business looks like an avenue to at least moderate wealth.

Range Mutton.—Mr. Davis points logically to the phenomenal improvement in range mutton quality as proof positive that the industry is on a permanent basis. The range lambs we have been getting this season have never been equalled, he said. They have averaged five pounds heavier than before, and that means 50 cents a hundred in quality. A sort of 25% is now regarded as heavy. Last year we often sorted them 50%. Washington, Oregon, Idaho and Utah are the choice lamb-raising sections of the range, and Idaho is by all odds the best mutton-producing section of the United States. During the next three months the Trans-Missouri country will market the best lamb crops ever turned off. Cutting up of the range has had a decidedly beneficial effect on the business. Sheep are run in smaller flocks, and more uniform results are achieved. Winter hay feeding means that the ewe is in good condition to raise its lamb, and that when ready for market they will be worth something to the killer. We have been making rapid progress in the mutton business recently, not only in raising, but in marketing and killing, and Idaho has set the pace.

Washington and Oregon send some good lambs, that range being sixty days earlier than the rest of the sheep country, but they are mostly on the fine wool order. Idaho has the mutton goods. Montana and Wyoming furnish the largest percentage of feeders, lambs raised in those States being healthy and feeding out uniformly.

Feeding.—In every branch of the business intelligent methods are now in vogue. The flockmaster no longer ships his stuff as it is gathered off the range, but picks out the tops early, continuing the sorting process throughout the season. This naturally cuts down the feeder end, but it is a more intelligent process than sorting at market. Some sections, such as Idaho, are making a specialty of lambs; others, notably Wyoming and Montana, contribute the feed-lot supply. Both Wyoming and Montana are out of it, as far as fat lambs are concerned. Their lambing season is too late, and the stock does not make hard flesh, getting soft and in poor killing condition, but both sheep and lambs make superb feeders, being growthy and healthy. Eastern feeders must hereafter place all dependence for filling feed-lots on these two States.

Sheep and Alfalfa.—Alfalfa, in Mr. Davis' opinion, is the savior of the sheep industry. It has put the Colorado feed lot on a permanent basis, has extended the sphere of mutton firms into Nebraska and established a new phase of the industry in Montana. Instead of taking mere ovine skeletons the finisher in the grain belt will buy half fat alfalfa-fed stock and put it in prime condition for the butcher within a short period.

I saw alfalfa-fed Montana lambs taken at around $5.25 out of the Chicago yards last fall, fed out sixty to ninety days and shorn and marketed in Buffalo, minus the wool, at $7.3 . They can get them in fair flesh on alfalfa up in Montana cheaper than the finisher in the grain belt can do it, simply because he has not the alfalfa. The bulk of the sheep now finished at St. Paul is now started on hay in Montana. The feeder in the East will buy his stuff in better condition and give it a shorter feed hereafter.

As Mr. Davis is firmly of the opinion that the mutton-making interest east of the Missouri is to be confined mainly to the fattening of range-bred stock, his views on the future of grain-belt feeding are of interest. He believes that sheep feeding is an art and that many amateurs fail to achieve profitable results because of inexperience. Certain successful feeders have already contracted their winter supply of screenings at $8 to $8.50 per ton and know just what their feed will cost them. Others will lie around until late in the fall to buy feeders 5 to 10 cents lower, only to find themselves up against a $2 to $3 advance in screenings. The feeding industry around St. Paul is going on a less speculative basis and will be largely confined to the finishing of range hay-fed stuff in first hands on judiciously bought screenings As for the farmer feeder, his opportunities are great, but unfortunately many are mere amateurs, hence results in not a few instances are unsatisfactory. Finishing mutton requires the skill born of experience. Two farmers can split a bunch of stuff, feed it the same length of time and at practically the same cost, and when marketed one lot will fetch $1 per cwt. more than the other. I have seen stuff come back looking worse than when it went into the feed lot. Feeders must learn to top out their stuff, holding back the portion not finished. I am of the opinion that the farmer will always be able to buy range-bred feeders, but the bulk of them will be hay fed and partially finished before they reach him. It is obviously the most economical method.

The Outlook.—That the American people are becoming partial to mutton Mr. Davis is convinced, but aged mutton is not acquiring popularity. Even in England weight meets discrimination. Demand on both sides of the Atlantic is for handyweight, good-fleshed, light-shrinking carcasses. The heavy wether is no longer the principal sheep of commerce.

THE FIELD.

Where Alfalfa Goes Haphazard.

A Lassen county farmer shows Hoard's Dairyman that in the light soils of that region of California alfalfa takes hold almost any old way. He says: We all raise alfalfa, for which Honey Lake valley seems peculiarly adapted, and it seems very amusing to me to read of the pains that should be taken in preparing the ground for seed. It is an actual fact that the seed has been sown in the virgin sage brush—brush grubbed and plowed afterwards. The case in point turned out just as good a stand as anywhere. Some claim that ten pounds of seed is plenty per acre; others will not sow over twelve pounds, while the best stand I ever saw was sowed sixteen pounds per acre. Put the seed into the ground in "any old way," thick or thin, and it will make a good stand. That's our experience here.

I have known the seed to be sown in March on top of the snow and make an elegant stand. Alfalfa lands here, with water, pay more than 10% on $100 per acre. We get two crops, and sometimes three, and lots of pasture. It is quite usual with many to allow stock of all kinds to run all winter on their alfalfa fields. Others show more reason, but all produce about alike.

Agricultural Review.

Butte.

LARGE APPLE CROP.—Chico Enterprise: The apple crop of this section is unusually large. One orchard belonging to Harvey C. Styles and containing thirty-five acres is estimated to have 150 tons of fruit now on the trees. The ranch is located on the Ninth Bidwell addition.

ORANGE GROWERS WILL NOT ORGANIZE.—Chico Record, Sept. 8: The orange growers of this section met here again today for the purpose of consulting as to the advisability of forming an association for their mutual benefit. The growers of Palermo were opposed to organizing at this time, as they deemed it too late in the season to accomplish anything effective. Consequently further thought of forming the association was postponed until January 14th, 1905.

PROFIT OF FIGS.—Oroville Register: A prominent fig grower says he is confident from his experience that figs are the most profitable crop that a man can grow in the line of fruit. He can sell his cured fruit for 3c a pound, and there is so little labor and so little loss that this will pay better than 7c a pound for cured peaches. The fig must not be irrigated. The trees must have time to grow and mature, even if it takes many years, without being irrigated. The roots are then sent down deep and the tree will resist the drouth. The fig will be sweet and when cured will remain in that condition. The fig is a heavy bearer and produces regular crops.

Colusa.

SUPERABUNDANCE OF HONEY DEW.—Sun: We notice this fall a superabundance of honey dew on the trees. The leaves on the large elm in front of Dr. Cason's residence are fairly glistening with it. The boughs are weighted down with it until two of them are broken. We have never seen so much honey dew on any tree. This kind of honey dew is extracted by plant lice from the leaves like the honey of the bee from the flowers. They do not seem to hurt the tree.

SHEEP KILLED BY DOGS.—Nothing is worse than a skeep-killing dog, unless it is four sheep-killing dogs, and four of these worthless beasts ran amuck in W. R. Merrill's band of sheep some time Tuesday night or Wednesday morning and succeeded in killing twenty-one out of a band of 150 before they were detected and driven off. Clarence Merrill killed two of the dogs.

Contra Costa.

ASPARAGUS.—Antioch Ledger: J. W. Nelson, superintendent of the Antioch Asparagus Cannery Co., has completed a tour of the islands up the river. He says Bouldin and Staten islands are still under water, with but slight hopes of making a showing next season, but that others are in good condition, and that he has 30,000 cases of asparagus in sight for next season, which will insure the running of the cannery the coming spring.

Fresno.

WINE GRAPE OFFERINGS.—Republican, Sept. 7: George P. Beveridge, local representative of the California Wine Association, states that the wine grape growers are offering their grapes to the winery at a very reasonable figure, and the chances are now that the Association will take all the grapes offered. Instead of naming prices for wine grapes this year, the California Wine Association and the affiliated wineries called for sealed bids for grapes, agreeing not to make known the price at which they were offered. When the bids were opened those under a certain maximum were accepted and all above the mark were returned with the statement that they were considered excessive. The result has been that a number of those whose bids were rejected put in other bids within the limit and these were accepted. It is believed that the crush this year will be about as large as usual.

Kings.

FINE CROP.—Hanford Sentinel: P. Scazaghini of Grangeville has a vineyard of seven acres from which he has finished picking the grapes for raisins, and he took 6000 trays of grapes from the vines of that vineyard. This is the oldest vineyard in Kings county.

GOOD YIELD OF GRAPES.—E. J. Gibson has finished picking his grape crop for raisins, and from the 2000 vines, on the place just north of town, he took 3272 trays of grapes. The vines are mostly of the Thompson Seedless variety, but a few Seedless Sultanas are there.

NEW WAY OF MARKETING MELONS.—Lemoore Leader: A few evenings since a party of young men visited the watermelon patch of C. T. Dougherty and appropriated unto themselves a goodly supply of melons. Mr. D. succeeded in procuring the names of the young men, and sent them each a letter requesting their presence (accompanied by a dollar) at his melon patch on a stated evening. The request is said to have been promptly complied with, each of the boys bringing along with him the required dollar with which to "square" himself.

Mendocino.

HOP PICKING.—Ukiah special to the Sacramento Bee: Hop picking is in full blast in the Ukiah Valley. There are about 3000 pickers in the valley, and it is estimated that there will be $50,000 paid for picking, the rate of wages being $1 per 100 pounds, or 75c. if picker leaves before the hops are all in. The largest pick so far was made in Cunningham Bros.' hop yard, a San Francisco boy, who picks here every year, having pulled the vines for 640 pounds in one day. Last summer, in Stanford's yard, a young fellow stripped 742 pounds in one day.

LARGE AMOUNT OF HAY BURNED.—Ukiah special to Sacramento Bee: The stage barn at Greenwood was destroyed by fire yesterday and J. C. Halliday, the owner, lost sixty-two bales of hay, the horses, wagons and harness being saved. The barn next to it, owned by the L. E. White Lumber Co., also took fire, and the company lost sixty tons of hay as a result. The cause of the fire is unknown, but it is supposed to have been caused by spontaneous combustion. There was no insurance on either of the buildings or their contents.

BROKE HOP PICKING RECORD.—Emil Weselsky broke the record for hop picking yesterday, weighing in 1148 pounds. The previous record was established by Weselsky last year of 733 pounds. The best only average about 200 pounds a day. Weselsky's hands were cut and bleeding and in a horrible condition from the poison of the hops. His day's work netted him over $11.

Napa.

SUN WITHERS GRAPES.—St. Helena Star, Sept. 9: Napa county has just experienced the hottest spell of weather ever known here. As a result of the awful heat the grape crop has been damaged to a great extent. Conservative estimates indicate that the loss will be fully 25%. Even the second crop grapes are badly withered. These estimates are made in vineyards where the soil is heavy and the foliage dense. On lighter soil the damage is undoubtedly greater.

Orange.

APRICOT RECORD BROKEN.—Blade: Estimates of the yield of dried apricots for Santa Ana and vicinity range from 75 to 100 cars, the largest crop ever produced in the history of the industry hereabouts. The larger portion has already been bought by commission men for wholesalers at the rate of 7c to 7¼c a pound, and prices for the remainder of the crop are still offered at 7c. The Santa Ana Dried Fruit Association, through its individual members, controls about eighty tons, and has not yet sold. The total output last year was about sixty cars, but the quality of last season's fruit was superior to this year.

CELERY CROP.—The celery acreage in the peat lands near Santa Ana is estimated to be in excess of that of last year by several hundr d acres. Planting is concluded and everything points to a very large yield. No blight or pests have yet appeared among the young plants, and the stock is of unusually hardy growth.

San Diego.

BIG BUNCH OF CATTLE.—Imperial Press: R. H. Benton of San Diego is on his way from Cuyamaca to the Colorado river with 1400 head of cattle for pasturage. It takes twenty drovers for the bunch. They have been on the way six days and are resting at Salton. They go to the Blythe ranch, 80 miles above Yuma.

San Joaquin.

LOW PRICES FOR WINE GRAPES.—Lodi special to Sacramento Bee: The wine grape buyers have named prices for this season, and they are very low. Outside buyers are paying more than the trust, however, but both claim to buy all they want. The figures quoted are liable to a drop any time, and it begins to look as though wine grape growing will be abandoned for table grapes, as more money is realized for the latter. From $11 to $12 is being offered by outside buyers, and from $10 to $11 by the trust, which controls the local wineries.

Santa Barbara.

BARLEY ROLLING IN.—Guadalupe Moon: Barley has been coming into the Southern Pacific Milling Co.'s warehouse, at Bermello, during the past week at the rate of 2000 sacks daily. Most of the enormous crops of the Oso Flaco are shipped from this point, and the greater part of them are handled by the milling company.

Santa Clara.

TRIPLETS.—San Jose Mercury: J. Hanson, foreman of the R. T. Pierce ranch, 4 miles west of Santa Clara, has a cow which recently gave birth to three male calves. They are all doing well and greatly resemble one another.

FINE TOMATOES.—W. K. Maze, who resides on the Kirk ranch, Dry creek road, brought some very fine specimens of tomatoes, several of which weighed over two pounds. There were several different varieties and were a fair sample of this entire crop.

BIG TRACT FOR STRAWBERRY CULTURE.—All that portion of the Sargent ranch lying east of the county road and comprising 1300 acres below Gilroy, has been leased by estate of Percy Morse of Watsonville and William Lynn of Salinas. The rental price is said to be $10,000 a year. The papers have been signed and under the terms the lessees are to take immediate possession. It is the intention of Messrs. Morse and Lynn to continue the dairy that is now on the ranch and to increase the acreage now in alfalfa. The tract that has been leased is fine bottom land and largely under irrigation. There are several artesian wells on the place, and last year a pumping plant was also installed. There is no finer land in the State for strawberry raising, and it is for that industry the place will be utilized outside of the acreage reserved for dairy purposes.

Solano.

DEMAND FOR TULE HAY.—Republican: Danuser Bros., who own a tract of tule land adjoining Suisun on the east, have already delivered this season to the Lincoln Pottery Co. about thirty tons of tule hay and have received an order from the same company for nine carloads more. Tule hay is not suitable for feed, but is used by the pottery company for packing earthenware for shipment, and for this purpose is said to be unequaled by any other article to be found on the market.

Sonoma.

HOP PICKING.—Santa Rosa Press-Democrat: Probably the largest hop ranch in Sonoma county is that of Farmer & Peterson, sometimes known as the Waller ranch on Mark West creek and on Russian river. There are about 1500 hands employed there at the present time picking. The Rayford Peterson ranch, about 4½ miles west of town, is probably the next largest, and here 300 people are kept busy. There are thousands of acres of hops in the county divided up into various sized ranches, and each of these employ from 10 to 200 people each. Growers pay $1 per 100 pounds for picking and pickers make whatever they can. Some working only part of the day are satisfied with 50 cents, others make $1 and some even as high as $2.50 to $3 per day. There are women who make $2.50 regularly and consider it pleasant work.

Stanislaus.

CUT WORMS DOING DAMAGE.—Modesto Herald: L. L. McCumber of Ceres district reports that cut worms worked him quite heavy damage. "On Monday," he says, "I looked over a 20-acre alfalfa field of mine that was in as fine condition as one could wish. I herded some cows around the edges in charge of a boy. On Friday I went there again and found the entire field, with the exception of three or four acres pasture for the cows, looking as though it had passed through a scorching fire. All of the leaves had been cut off and lay brown on the ground, the stalks standing. On one stalk I found two of the worms and no less than seven of their cocoons." Mr. McCumber adds that heretofore he saved most of his alfalfa by cutting it. Subsequently thousands of worms, making their way to new pastures, went into an irrigation ditch and were destroyed. They were found only in fields here and there.

PROFITABLE SWEET POTATO CROPS.—The sweet potato crop about Turlock is turning out very well, the first diggings in bulk yielding from 125 to 150 sacks to the acre. On the Joyce place—new land—Gomez is getting 125 sacks on the higher and 150 sacks on the lower road. Pedras, close to Turlock, is getting 150 sacks. Digging has not yet become general. The sweets are bringing the grower $1.15 in carload lots. First offerings, limited, brought $1.40. Osborne & Son have been carrying a few of the Portuguese growers, and have thereby derived data showing that the cost of these yam-like tubers is about 30 cents a sack.

GREAT ALFALFA RANCH.—O. McHenry has eighteen scraper teams at work checking land on the old Carver ranch. This season and next he will put the entire tract of 800 acres in alfalfa. He has 1200 acres of the adjoining Bald Eagle ranch in alfalfa now, and is adding to it. We imagine that a 2000-acre alfalfa ranch will be one of the great things, agriculturally, in the world. And Mr. McHenry will probably increase this acreage largely as his great packing plant enterprise develops. There are 4000 acres in the Bald Eagle ranch.

Tehama.

WOOL DEALERS EXPECT GOOD FALL SALES.—Red Bluff special to Sacramento Bee, Sept. 8: The wool market in Red Bluff will open in about a fortnight, when some of the large growers will be ready to place their clips on sale. From reports received, the wool this fall will be of finer texture than is generally obtained at the second clip. There was plenty of grass and abundance of water in the mountains all summer and the sheep men expect longer and finer wool on the backs of animals. Several small clips have been sold. In Lassen county the clips of Anton Avelly, George Peterson and Richard Graves were sold at a price said not to exceed 11 cents, delivered at the railroad station. The growers of Ash valley, Modoc county, including Joaquin Brass, Michael Sullivan, Frank Nunes and several others, have disposed of their fall crop of wool at 10 cents a pound, hauled to Madeline. These clips in the two counties will probably aggregate 300 bales. It is thought that the opening price here will be somewhere between 10 and 11 cents.

MAMMOTH MUSKMELON.—E. B. Walbridge is exhibiting to his friends a mammoth muskmelon raised on his place near Red Bluff, and it certainly is a whopper, completely filling a large pear box.

Yolo.

BIG ALFALFA YIELD.—Mail: J. W. Snowball of Grafton has been raising alfalfa on six acres of his land, planted in April, 1903. He says of his experience: "This year I have cut and harvested four crops of hay from it. The first was cut about the middle of May and yielded fourteen large two-horse wagonloads of over a ton to the load. The third crop was cut about June 20 and yielded eleven tons—large tons at that. The third cutting was done July 30 and yielded nine tons, and I have to-day finished hauling the fourth cutting, and put in eight large two-horse wagonloads in the barn, making forty-two full tons of hay from six acres of measured land, or seven tons to the acre, and from appearances I shall have another crop to cut from this land before frost comes. I attribute the large and fine stand of alfalfa on this land to the fact that I have never pastured it. There is not a sign of foxtail or any other grass in the field, no bare spots—a perfect, uniform stand of alfalfa. It has never had any irrigation. It is situated on the Sacramento river, where, when the river is high in the spring and winter, it gets subirrigation. The water, say for four months in the year, stands from 1 to 2 feet below the surface, and it is never over 10 feet to water. Thus the alfalfa, being a deep-rooted plant, always obtains a liberal supply of moisture from below. I find that alfalfa in our dry summer climate will not bear tramping or pasturing with stock, especially during the spring season, when the ground is soft, the pasturing bringing foxtail and other foul growth, which in time will kill out the alfalfa and render it unprofitable."



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The Apple Cure.

In these days of indigestion,
Of fever and congestion,
A new and pleasant remedy has lately come to light;
'Tis a cure-all pure and simple,
The very latest wrinkle—
Just eat a big round apple and you'll be all right.

Then goodby to inflammation,
To pain and ulceration;
The vermiform appendix will be forgotten quite;
Throw away your pills galore,
You won't need them any more.
Just eat a big round apple and you'll be all right.

If swear words rise and choke you,
If an awful thirst comes o'or you
And you cannot find the keyhole in the middle of the night,
This will bring the peace of mind
After which you long have pined—
Just eat a big round apple and you'll be all right.

Then goodby to palpitation,
To germs and amputation,
The surgeons and the specialists are in a dreadful plight;
Throw away your pills galore,
You won't need them any more;
Just eat a big round apple and you'll be all right.

If you're feeling pessimistic
In a way that's realistic—
If everything is going wrong and things look black as night:
If you're ill in mind or body,
Do not take a drink of toddy—
Just eat a big round apple and you'll be all right.

Then good-by to all narcotics,
To tonics and hypnotics,
The medical profession will soon be lost to sight;
Throw away your pills galore,
You won't need them any more;
Just eat a big round apple and you'll be all right.

—New York Sun.

How A Plucky Mare Saved Him.

A young man well dressed and in a great hurry rushed up to the railroad tracks toward the horse runway of the South St. Paul yard. He was out of breath when he arrived at the chute, where a load of horses shipped from New Mexico was about to be unloaded.

When the young man reached the place two or three animals had already passed down the chute and were stretching their legs in the corral. The young man examined the animals sharply and then stepped up to the agent of the consignee.

"Could I buy one of those horses?"

"Certainly, young man, that's what we got 'em for," replied the agent. "Which one do you want?"

There was an expression of perplexity on the face of the customer. "I would bet my head I heard her whinny," he muttered.

"They aren't a very pretty lot," ventured the agent, "but they're all right. By George, there's one more in the car," he exclaimed, as he raised the bars he had dropped and allowed a buckskin mare, desperately lame behind, to come out.

The face of the young man lighted up, and he sprang at the fence and vaulted it before the agent could prevent him.

"Dolly! It's you, Dolly," he sobbed, as he threw his arms about the little mare's neck. She rubbed her nose on his coat and pricked her ears forward and backward with pleasure at the meeting.

The agent allowed the horse and man to say "howdy" to each other and then inquired:

"Well, young fellow, how much will you give for her?"

"How much do you want?" replied the man.

"Sixty-five dollars," said the agent, and the young man started to count out the bills.

The mare stood quietly by until the trade had been made and then followed her new owner to the corral.

"I don't need any halter," said the young man. "I guess we know one another well enough to get to the barn without being roped."

The mare followed like a dog and together they entered one of the big stables.

"Give her all she wants and fix her up as well as you can," he remarked to the barn men. and after looking over his purchase for several minutes, he went into the office.

"Seems to know you, sir," said one of the hostlers.

"Yes, I should think so," replied the young man. "She knows me and I certainly know her. She isn't pretty, but I wouldn't trade her for English Lad, or Hamburg Belle, or any of those flyers, and I guess Dan Patch would be overlooked if Mr. Savage should offer to swap with me for Dolly."

"Why?"

"Well, I'll tell you. A year ago last summer I was in the California mountains. I was broke as the old man and myself had a temporary disagreement. I was working with the railroad as timekeeper. I had to ride twelve miles a day through the roughest country in California and the little mare used to carry me.

"I would not be here if it had not been for her nerve when mine failed. One day we were going along a twisting trail that was being changed into a railroad grade. The men had cleared the chaparral from both sides, and the gummy, resinous stuff lay stewing in the sun. The grade lay along the side of a canyon and in some places the mountain was so steep that a man could toss a stone half a mile.

"The grade had been carried into the gulches on either side of a jutting spur and then out again on the face of the spur and around to the opposite gulch. The front of the spur was straight up 500 feet, and where the grade passed around it shelved off at an angle of about thirty degrees to a river 2500 feet below.

"It was a bad sort of a place for a tenderfoot, but Dolly and myself had negotiated it many times and I had confidence in her judgment.

"Dolly kept pricking her ears backward and casting sidelong glances at me, and I did all I could to soothe her. Finally there came a puff of wind that carried some of the brands clear out on the mountain side, and in a few more seconds, by leaning over the edge of the grade, I could see the blue smoke and yellow flames as they ate their way into the heaps of brush. The smell of the rosin in the chaparral struck me as being too close for comfort, and I told the little mare to move along.

"When a gust of white flame swept up out of the furnace and touched my left side, I felt my senses reel, and expected the next minute to be my last. There was a lull in the attack of the fire just at this juncture and the old mare turned her head around and looked me squarely in the eye.

"'Well, young fellow,' she said, 'you have managed to get us in a nice fix, have'nt you, now? But I'll try to get us out. Can you hang on when I go through? Get ready, for I'm going to try it.'

"I just had time to murmur 'Into Thy hands I commend my spirit,' when she struck the fire. Into it she plunged and, keeping her courage on the narrow ledge, made the turn out on the mountain side.

"It seemed a half hour before we were through that hell. And as we emerged from the sweeping billows I felt her falter. I was too weak to guide her, but she managed to stagger to safety just as I rolled from her back.

"I was in the hospital in San Francisco a month before I was in shape to be about and it was three months before I could get back to the mountains to try to find Dolly. My father had become reconciled to me during my illness and I wanted to buy the old mare and take her back home with me.

They told me that she had been badly burned and was no good and had been turned out on the hillside to die.

"But I found her to-day in this shipment from New Mexico and from this time forth to the end of her days she is going to wade in bluegrass and have every care a horse can have, because it was through her that I am here."

Better a smile than a tear or a sigh,
Better a laugh than a frown.
Better an upward look to the sky
Than always a sad look down.

The joys we find in each little day
Perhaps may seem few and small,
But better these little joys, I say,
Than to have no joys at all.

Keep faith in the love that blesses men
As the sunshine does the sod.
Let us do our best and trust the rest
To the Father-heart of God.

—Eben E. Rexford.

The Value of Sound Sleep and How to Obtain It.

Most persons know from experience that normal health and strength cannot be maintained without regular and natural sleep. A. G. Koester, M. D., in the current number of Vim, writes interestingly on the subject, and gives hints of value to those who have difficulty in obtaining what he calls "the special provision whereby nature is given a chance to 'catch up', as it were, and make amend for the terrific drains which constantly sap the vital forces during waking hours."

The two material conditions that particularly contribute toward sound and refreshing sleep are proper ventilation and proper lighting of sleeping apartments. Most people of intelligence now sleep with a window open the year around. But one window is not enough. It should at least be lowered from the top and raised from the bottom, as two apertures are essential, one for the ingress of pure air and the other for the egress of polluted air.

To procure a perfect circulation, however, and a change of air as rapid as is the exhalation from the sleeper's lungs, two windows should be open, one on each side of the room, or the second one may be in an adjoining room. To prove the need of this, let a person who has been out in the open air walk into your house and enter your bedroom before you have risen in the morning. If you have been going on the one-window ventilation plan, his nostrils will promptly detect it, and he can tell you what you yourself will not be able to discern—that your room is close and ill-smelling. Try the two-window plan, and your visitor will be able to report your surroundings fresh and sweet smelling.

But many of us who have learned the lesson of proper ventilation have given the subject of lighting no thought. Just as surely as you cannot sleep properly in air that poisons the blood, you cannot sleep properly facing the light. It irritates the entire nervous system, and nerve energy is too precious to be parted with unnecessarily. The result is that sleep is not deep and undisturbed, and nature is proportionately hampered in her repair work. This happens in a harmful degree even though you may not realize it sufficiently to awaken. And it happens, of course, when the gray dawn comes stealing through your window in your last hour or two of sleep, the very time when the brain should be getting its best rest and upbuilding. You may receive the effect in a headache the next day, or you may get it in impaired digestion. For digestion depends upon sleep. If the cells that are concerned in the stomach operation are not built up, they cannot work properly.

Now, the remedy for this lies in the arrangement of your sleeping room. Do not, for your very health's sake, try to correct it by darkening the window with curtains, for that shuts out the life-giving fresh air. Let your windows alone. But simply turn the bed about so that you do not face the light. If there is no other way to compass the purpose, it can be done by placing the headboard of the bed against the window. And this will serve a double object, in that it will also act as a protection against the draught. If it is a modern brass bed without the headboard, hang a blanket or quilt over the top railing. Quite possibly some one may remark that the room will not look so well. Perhaps it will not. But life is more important. And just remember that it is the prolongation of human life that you are aiming at through the right conditions for sleep, proper light and proper ventilation. Some day when architects learn to build houses for the accommodation of people, instead of, as now, forcing people to accommodate themselves to houses, all of these emergencies that befall in the natural course of living will be arranged for. Until then we must make the best of present circumstances.

But there is another occasion where we are gravely, sinfully delinquent—that is, in the matter of letting light shine in a sleeper's eyes. We cannot lay the blame to the architect's nor anywhere else but to our own carelessness. And, worst of all, little children are the helpless victims. How often is a baby allowed to lie flat on its back in a cradle or a carriage with its face lifted to a glare of light? It is worse than it could possibly be for an adult, for he will know enough to turn over or otherwise shield his eyes with the bed coverings. It is a wrong, a great wrong. The light not only interferes with the baby's sound sleep, but it in many cases directly affects the optic nerves and impairs the organ of sight. And so we have many little children wearing glasses.

How to Make Wholesome Bread and "Perpetual Yeast."

When properly raised and baked, there is nothing more wholesome for the table than home-made bread. To-day it is an easier task to make good bread than it was fifty years ago, because the yeast and flour are so much better that they do not require such thorough kneading as they did then. Perpetual yeast, a recipe for which was printed in the Tribune several years ago, makes delicious bread and is easily prepared. If kept in a cool place it will last forever. For the benefit of those who have never tried it, the recipe is repeated. Save two cupfuls of the water in which potatoes have been boiled at noonday, and add to this half a cake of fresh compressed yeast. Turn into a quart glass can that can be tightly sealed, stir in half a cupful of sugar and set it where it will "work." The shelf above the range is the ordinary place. Leave off the cover and stir the yeast occasionally, letting it stand for several hours, or until very foamy and literally filled with rising bubbles. Then seal it tightly and set it in the cellar. When the time comes for bread making bring up this "starter," as it is called, and add two more cupfuls of fresh potato water (lukewarm) and another half cupful of sugar. Some housekeepers, however, add only two tablespoonfuls of sugar, but it seems to be better with half a cupful. When the latter quantity is used no sugar is added to the dough. Allow the yeast to work as before (leaving off the cover). The glass jar should be full, and set it in a deep pan to catch the froth as it runs over the edge. If the yeast is put over at noon the bread should be "set" at about seven o'clock in the evening. Only two cupfuls of yeast should be used, and the rest sealed tightly and placed in an ice-cold cellar until needed for another "starter." By being continually renewed in this simple way it will last indefinitely. Like everything else, however, it will lose its goodness if not properly handled. It should never be left in a warm place after it has thoroughly worked. Bread should be made with it while it is working.

To make good bread sift about three quarts of warm flour and stir into it two cupfuls of lukewarm water and a tablespoonful of soft butter, with two cupfuls of perpetual yeast. Beat and stir and gradually work in all the flour, adding a tablespoonful of salt. Knead thoroughly, or until a smooth batch of dough is formed. Cover this closely after rubbing it well with soft butter, to prevent a crust from forming. Let it rise over night. In the morning cut out into loaves, and after letting them

rise in the pans until light bake in a steady oven. They should be put into the oven about nine o'clock. If you are perfectly sure that there is a stout body of fire in the oven leave the door open for five minutes after placing the loaves in it. This is a good plan, because it gives the bread a thorough chance to rise to its full height before browning.

Excellent rolls are made from this rule. If rolls are desired for breakfast cut off as large a piece of dough as required, form into rolls and place them near the stove to rise for half an hour. When light rub each with melted butter and bake.—N. Y. Tribune.

He Never Blamed the Booze.

He took a bottle up to bed,
Drank whisky hot each night,
Drank cocktails in the morning,
But never could get tight.
He shivered in the evening,
And always had the blues,
Until he took a bowl or two—
But he never blamed the booze.

His joints were full of rheumatiz
His appetite was slack,
He had pains between his shoulders,
Chills ran down his back,
He suffered with insomnia,
At night he couldn't snooze,
He said it was the climate,
But he never blamed the booze.

His constitution was run down,
At least that's what he said;
His legs were swelled each morning,
And often had swelled head;
He tackled beer, wine, whisky,
And if they didn't fuse,
He blamed it to dyspepsia—
But he never blamed the booze.

He said he couldn't sleep at nights,
And always had bad dreams;
He claimed he always laid awake,
'Till early sunrise beams;
He thought it was malaria,
Alas, 'twas but a ruse,
He blamed it on everything—
But he never blamed the booze.

His liver needed scraping,
And his kidneys had the gout;
He swallowed lots of bitters,
'Till at last it cleaned them out.
His legs were swelled with dropsy
'Till he had to cut his shoes;
He blamed it to the doctors—
But he never blamed the booze.

Then he had the tremens,
And he tackled rats and snakes;
First he had the fever,
Then he had the shakes,
At last he had a funeral,
And the mourners had the blues,
And the epitaph carved for him was—
He never blamed the booze.

—The Kansan.

A Dog Orders Sausage.

A butcher narrated the other day a story illustrative of the intelligence of dogs.

"A patron of mine," he said, "had a collie that came to me one morning with a slip of paper in his mouth.

"'Hello, doggie,' said I, and the collie wagged his tail and dropped the paper on the floor at my feet. I opened it. It was a signed order from his master for a piece of sausage. I gave him the sausage. He ate it and went home.

"Time after time the collie came with these orders to me, and finally I stopped reading them. Each, I presumed, was for a sausage, and each procured a sausage. I suppose, all told, the dog got as many as twenty pounds of sausage from me in two months.

"But the master, when I tendered my bill, kicked. He said he had only given the dog about a dozen orders, whereas I must have honored nearly a hundred.

"Well, the upshot of the matter was that the two of us got together and did a little detective work. We watched the dog. And do you know what we found? Why, we found that this cunning dog, whenever a sausage hunger seized him, would grab up a piece of white paper—any piece he could find—and bring it to me.

"I had been careless, you see, never looking at the paper, and through my carelessness the collie had fooled me for two months."

Turpentine a Moth Preventive.

"It is foolish for people to pack clothing and furs away in cedar chests, in moth bags or encased with clusters of moth balls or camphor," Mrs. R. D. Johnson said to me, "for these things are poor expedients at the best. Moths will never settle where there are fresh air and plenty of light, so that clothing which is kept right in the closets and frequently exposed to the air and sunshine will be freer from the destroying moths than those garments which are kept packed carefully with a lot of compounds which do little for the clothing save impart a disagreeable odor to it.

"It is not always possible, however, to keep winter clothing, for example, around the house during the summer—closets are generally so small that it is apt to be very much in the way. It has to be packed, but for this purpose a trunk is better than anything else. Brush the garments carefully, even turning the pockets inside out and treating them to the brush, and then place the clothing in the trunk, putting sheets of newspaper between the garments. Moths do not like this paper, and it is sufficient to induce any moth fly that may have found lodgment in the cloth to turn up its wings and die; but if one wants to make assurance doubly sure, a trifling quantity of turpentine sprinkled on the sides and bottom of the trunk will absolutely prevent any moths living on the garments that are packed there.

"It may even be sprinkled on the clothing, if one desires, for the turpentine will not injure the most delicate fabric or colors, and the odor vanishes almost as soon as they are exposed to the air. I know these things are facts, for I've had them in successful use for over fifteen years."—St. Louis Globe-Democrat.

Hints to Housekeepers.

If the eggs come from the icebox they will whip much stiffer than if kept in a warmer place.

A dish of powdered charcoal kept in the refrigerator will help to keep the air sweet. It should be changed twice a week.

A wire spoon whisk is best for eggs when they are beaten separately. A revolving beater is best when the yolks and whites are whipped together.

An old housekeeper says that a little dissolved gelatine added to the cream will prevent all danger of its turning to butter, as it is apt to do when it is whipped in hot weather.

A roast of veal is made more "tasty" by seasoning over night in this way: Take equal parts of pepper and salt, and moisten with grated onion. Rub this thoroughly into every crevice and cranny of the roast and put it in a double baking pan. Next day "lard" with its own suet or a little bacon, and let it brown slightly. Then dredge with flour, putting a half cup of boiling water in the pan as a gravy foundation. By renewing the flour every time it is dredged the gravy will be found thick and creamy when the meat is roasted.

Uses of Coal Oil.

A few drops on your dusting cloth will brighten your furniture, as well as prevent dust from flying from the cloth.

One tablespoonful added to each boilerful of water will lessen labor, as well as whiten your clothes when washing.

A few drops added to your boiled starch will make ironing easier.

A few drops on a hinge or roller which has formed a bad habit of squeaking will insure a speedy cure.

A few drops added to the water with which windows are to be washed will save time and labor.

Dip the fingers in the oil and rub the throat, to give relief from sore throat.

Saturate a cloth in the oil and rub the rollers, to clean a clothes wringer quickly.

Saturate a cloth with the oil to clean the sink, bathtub or basin which has become greasy and discolored from use. —Woman's Home Companion.

Popularity is the Hall-Mark



OF QUALITY.

Monarch Hams

ARE POPULAR

EVERYWHERE.

Western Meat Company,

SAN FRANCISCO.

Domestic Hints.

Iced Cocoa.—This is as delicious and apt to be as generally relished as either iced tea or coffee. Do not make it too rich, but use rather more water than milk and sweeten while yet hot, stirring briskly, that the sugar may be thoroughly dissolved. If it is to be served at a dinner or luncheon, select a day when only white meats are on the menu.

Tomato Baskets. — These require sound, ripe tomatoes, as near in size as possible. Wash and dry well, but do not peel. Slice off top and scoop out contents with a silver spoon. Mix it well with breadcrumbs, season with grated onion, chopped celery and olives, fried up with an egg or two. Put enough of this in each "basket" to fill it, and parboil. Place them about a roast of veal or lamb for garniture and serve with the meat gravy.

Rice Meringue.—This is a dish that may be varied in several ways. Cook one-quarter of a pound of rice in new milk till it swells, then flavor nicely with vanilla, and stir in the yolks of two eggs. Line a pie dish with this mixture, and then place a layer of stewed fruit on it; whisk the whites of the eggs to a froth to make a meringue on the top. Bake in the oven until colored. Instead of using fruit or jam, the juice of a lemon may be stirred into the rice, with sugar to taste.

Peach Mango.—Lay the peaches in salt and water for two days, then take them out and wipe them dry. Take out the stones and fill with the following mixture: Minced garlic, horseradish, bruised mustard seed, and sliced ginger root, celery seed and onion. Tie the peaches around with thread and strew over them cloves, broken cinnamon and turmeric. Season cold vinegar with made mustard, ginger and nutmeg and sugar. Pour the vinegar over the peaches and set the jar in a cool place for three months. Oil may be added to this filling if desired.

Huckleberry Loaf Cake.—Sift two cupfuls of flour with two heaping teaspoonfuls of baking powder and a quarter teaspoonful of salt. Cream a cupful of butter with two cupfuls of powdered sugar, stir in the beaten yolks of four eggs, a half pint of sweet milk, a half teaspoonful each of powdered nutmeg and cinnamon, and the stiffened whites of the four eggs added alternately with the sifted flour. Last of all stir in lightly a quart of huckleberries thickly dredged with flour. Turn into a greased mould with a funnel in the center and bake.

Banana Shortcake.—Make a rich biscuit crust, bake in jelly cake tins not too thick layers. When done, split open with forks and butter while hot, three layers being enough for one cake. The two bottom layers and one top make the best shape. Take about three good-sized thoroughly ripe bananas and shred finely with a fork. Spread a layer of the fruit on the crust, adding the least bit of salt, and sprinkle well with powdered sugar. Add the next layer in the same way. On the last one spread fruit very thickly, well mixed with sugar, so as to form a sort of icing. Serve with soft custard flavored with vanilla.

Stuffed Cabbage.—This is a dainty and appetizing hot-weather entree if care be taken to procure one of the crisp, early summer cabbages. Cut off the stalk very close and spread apart the outside leaves, so that the heart can be cut out, leaving a small natural cup to be filled. The cabbage which has been removed is chopped up fine with English walnuts or pecans, moistened with cream, and then put back, the outside leaves to be tied close about it while it steams in a double boiler. Allow it to cook slowly until thoroughly done and serve with butter sauce.

Chow Chow—Half a peck green tomatoes, two large heads of cabbage, fifteen good-sized onions, twenty-five cucumbers, one pint horseradish, half a pound mustard seed (white), one ounce celery seed, one ounce tumeric, half a teacupful ground black pepper. Cut the tomatoes, cucumbers, onions and cabbage small, and pack them in salt for one night. In the morning drain the salt off, and lay them in vinegar and water for a day or two, then drain them again. Boil the spices in half a gallon of vinegar, with three pounds brown sugar, and pour it over while hot. Repeat this for three days, then mix five ounces mustard and half a pint of the best salad oil. Add two quarts more of vinegar when the pickle is cold. This is good to eat in two months.

Taking out Stains.

Here is a serviceable list to be kept for reference: To take out grass stains use ordinary coal oil; wet the spots thoroughly just before putting them in the washtub.

For iron rust wet the spots with lemon juice, lay the garment in the sun and spread thick with salt; every now and again squeeze lemon juice over, keeping it wet. Two or three exposures may be necessary.

When your tablecloth and nice napkins are stained by fruit, have a small bottle of javelle water prepared at the druggist's, and saturate the spots, letting it lie a while before laundering. If fruit stains are taken in time, however, have some one hold the spot over the sink and pour boiling water slowly through. Oxalic acid eats a hole in a few moments unless immediately washed out.

Glycerine takes out coffee and tea stains. First soak in cold water, then spread with glycerine and leave all night. The stains will disappear in the laundering. Those who have used vaseline know what an ugly stain it leaves on linen. This can be removed with chloroform or ether, but must be used with care. Have a cup or bowl handy; pour a few drops of ether on the stain, invert the bowl over the spot to keep the fumes from evaporating and leave some time.

When a garment has been scorched in the ironing, unless too deep, a hot sun bath will effectually draw out the spot. If not quite gone, wet the place and rub laundry soap on it; then lay in the sun.

The Markets.

San Francisco Produce Report.

San Francisco, September 14, 1904.

CHICAGO WHEAT FUTURES.

Wheat futures in Chicago were as follows for the week named, price being for No. 2 Red per bushel:

	Dec.	May.
Wednesday	$1 07½@1 06¼	$1 09⅝@1 08¾
Thursday	1 06⅝@1 08⅛	1 08⅝@1 10¾
Friday	1 07¾@1 08⅝	1 09⅝@1 11⅛
Saturday	1 08⅛@1 09	1 09¾@1 10¾
Monday	1 09⅛@1 12⅞	1 11¼@1 14⅞
Tuesday	1 11 @1 16¾	1 15¾@1 18⅞

CHICAGO CORN FUTURES.

Prices of futures on No. 2 corn per bushel in Chicago were as follows for the week:

	Dec.	May.
Wednesday	52¼@51¾	50⅜@49⅞
Thursday	51⅞@52¾	49⅞@51¼
Friday	52⅝@51½	51½@49⅞
Saturday	51¾@50¼	50⅜@49⅜
Monday	51 @51⅞	49¾@50½
Tuesday	52 @54¼	51 @53¼

SAN FRANCISCO WHEAT FUTURES.

The range of values in San Francisco for No. 1 White wheat per cental was as follows:

	Dec., 1904.	May. 1905.
Thursday	$1 49⅞@1 49½	$——@——
Friday	*——@——	——@——
Saturday	*——@——	——@——
Monday	1 50¼@1 51¼	——@——
Tuesday	1 52⅝@1 51¼	1 51¾@1 52
Wednesday	1 51½@1 49⅞	——@——

*Holiday.

Wheat.

The current week has been about as badly broken up by holiday observances as the week preceding, there having been a total suspension of business in local grain circles on account of Admission Day and Jewish New Year, making a break from Thursday until Monday. Business doing locally in wheat, while not of large proportions, has been generally at steady values. The latest Government crop report shows the condition in some of the most prominent Spring wheat States as decidedly poor and materially worse than at date of preceding report. Minnesota is given at 69, North Dakota 63, South Dakota 56, Iowa 66, showing a decline during past month of 23, 27, 29 and 14 points respectively. In a large portion of Europe the crop is turning out poorly. A prominent Eastern miller thinks it altogether probable that wheat will this season sell for $1.20 per bushel in Chicago. Taking this view, local values are certainly not at high levels at present. One ship cleared for Europe the past week with a part cargo of 6,720 centals wheat, valued at $9,600. Two French ships arrived under charter for grain to Europe, one at 22s. 6d. and the other at 21s. 3d. One spot charter for wheat and barley cargo was reported at 21s. 6d. Ship owners are asking 22s. 6d. freight rate on straight wheat cargoes to Europe, usual option as to port of discharge.

California Milling	$1 50 @1 60
Cal. No. 1 shipping, alongside	1 42½@1 47½
Oregon Club	1 40 @1 45

PRICES OF FUTURES.

During past week the range on options was:
December, 1904, delivery, $1.49⅝@1.52⅝.
May, 1905, delivery, $1.51¾@1.52.

Wednesday, at the forenoon session of Exchange, December, 1904, wheat sold at $1.51½@1.49⅞; May, 1905, $——@——.

Ocean freights and prices for wheat, as compared with a year ago, are as follows:

	1903–04.	1904–05.
Liv. quotations	-s-d @-s-d	-s-d@-s-d
Freight rates	12½@15¾s	21½@—s
Local market	$1 45 @1 47½	$1 42½@1 47½

Flour.

Quotable values remain as previously noted. There is a moderate movement outward, mainly of stocks previously contracted for. Trade on local account is not particularly brisk. For best qualities and favorite brands the market is tolerably firm. Ordinary qualities are being offered in some instances at less than cost.

Superfine, lower grades	$3 25 @3 50
Superfine, good to choice	3 50 @3 75
Country grades, extras	4 25 @4 50
Choice and extra choice	4 50 @5 00
Fancy brands, jobbing	5 00 @5 25
Oregon, Bakers' extra	3 75 @4 25
Washington, Bakers' extra	3 75 @4 40

Barley.

There is a fair inquiry for barley of the ordinary variety suitable for shipment, and market for good to choice is firm at prevailing values. A cargo of 60,813 centals, valued at $72,900, was cleared the current week for Europe. Three ships were added to the grain loading list to take barley as part cargo to Europe, the rates being 21s. 3d., 21s. 6d., and 22s. 6d. The lowest and the highest figures were for vessels chartered prior arrival. Two ships were taken for straight barley cargoes at 23s. 9d. to Cork for orders, this being the present asking rate of the Ship Owners' Union. In Chevalier barley there is no evidence of anything of consequence doing at present. Business in feed descriptions is of moderate volume at values much the same as have been current for several weeks past. Speculative trading was confined to December feed, with no pronounced fluctuations the past week in values for this option.

Feed, No. 1 to choice	$1 07½@1 10
Feed, fair to good	1 03¾@1 06¼
Brewing, No. 1 to choice	1 12½@1 20
Chevaller, No. 1 to choice	1 20 @1 30
Chevalier, common to fair	1 00 @1 10

Oats.

Offerings continue to be largely new Reds and Blacks of common to medium grades. Choice to select, particularly of Blacks suitable for seed, are being sought after and are commanding stiff prices. Current values for feed qualities are being well maintained. Some old oats are arriving from Washington, mostly representing prior arrival purchases on milling account.

White oats, fancy feed, old	$1 35 @1 40
White, good to choice	1 30 @1 35
White, poor to fair	1 20 @1 27½
Milling	1 30 @1 35
Black oats	1 20 @1 65
Red, fair to choice	1 20 @1 45

Corn.

Eastern is in fair supply, principally of rather ordinary quality, and is not in active request at full asking figures. California corn is in such light spot stock as to be hardly quotable in a regular way. Choice domestic could be readily placed to advantage.

Large White, good to choice	$1 40 @1 50
Large Yellow	1 40 @1 50
Small Yellow	1 60 @1 65
Egyptian White	1 35 @1 40
Egyptian Brown	1 25 @1 30
Eastern, in bulk	1 32½@1 40

Rye.

Market is lightly stocked. Holders are in the main rather stiff in their views.

Good to choice	$1 30 @1 35

Buckwheat.

This cereal is out of stock. Nominal values, based on buyers' views, are $2.00 @$2.25 for good to choice.

Beans.

Not many beans coming forward from any quarter. Offerings of most kinds are light and are principally Whites and Bayos, values for which are ruling steady. A few new Pinks have sold at $3, large buyers later bidding $2.80. These beans were good, but required cleaning. *Limas and Reds are being firmly held. Owners of Black-eyes are not disposed to crowd stock to sale or to accept less than full current figures.

Pea, fair to good, 100 lbs	$2 75 @3 15
Small White, good to choice	2 90 @3 15
Large White	2 25 @2 50
Pinks	3 00 @3 25
Bayos, good to choice	2 40 @2 55
Red Kidneys	4 50 @5 00
Reds	4 25 @4 75
Limas, good to choice	3 90 @4 00
Black-eye Beans	2 35 @2 50

Dried Peas.

Very few offering at present from first hands, and values in consequence are not well defined. There would be no difficulty, however, in placing good to choice within the quoted range.

Green Peas, California	2 00 @2 50
Garhanzos, Large	3 25 @3 50
Garbanzos, Small	3 00 @3 25

Hops.

Picking has been finished in the Sacramento Valley, and is well under way in Sonoma and Mendocino counties. The market continues firm, with demand fairly active. Although buyers generally are not inclined to make public their bids, it is understood that they are willing to purchase within 26@28c. for good to choice. Fully 40 per cent of the crop on this coast is believed to have already passed out of growers' hands. The New York Producers' Price Current says: "Much interest is shown in the harvesting of the world's crop of hops. In New York State picking on the main crop is in full blast and both growers and dealers are surprised at the yield. In some sections where 25 per cent. increase was expected the picking shows an increase of 40 per cent. and above. Until recently 60,000 bales had been considered a fair estimate, but conservative authorities are now figuring on 65,000 to 70,000 bales. Buying has been lively for both seedlings, which have now been picked, and regular lates, which are still on the poles; 30c. has been paid freely in the interior, and 31c. for choice. The quality of the samples shown thus far indicate the finest crop in years. Reports from England are not encouraging, farmers being unable to get rid of vermin and mold. Estimates of the crop are placed conservatively at 350,000 cwts., with indications that it may go lower. The Austrian harvest is finished and about 200,000 cwt. gathered. Germany is still picking and indications point to considerably less yield than last year. On account of the unusually fine summer's business in that country, the stocks of 1903 and older hops have been well cleared. Our local market has shown much strength and holders of 1903 hops have advanced prices, older goods moving up in proportion. There have been a few open sales of seedlings at 32c., and more money has been obtained from brewers."

California, good to choice, 1904 crop	25 @29

Wool.

Market has developed no noteworthy changes since date of last report. There have been so far no heavy receipts of Fall clip, and most of the wool coming in represents purchases made by dealers through their agents in the interior. It is not likely that the local market will be at any time the coming Fall or Winter glutted with offerings from first hands.

SPRING.

Northern, free	22 @—
Northern, defective	17 @20
Oregon, good to choice	20 @22
Nevada	15 @20

FALL.

Foothill	14 @17
San Joaquin and Southern, free	12 @14
San Joaquin and Southern, defective	8 @10
Southern lambs, as to quality	8 @14

Hay and Straw.

The hay market shows no improvement, either as to quotable values or general tone. Wheat hay of high grade is in fair request at full current rates, but of other descriptions there is a superabundance of offerings, despite decidedly low asking figures. There is nothing at the moment to warrant anticipating anything but a weak and dragging market for a month or two to come. Market for Straw is fairly steady at prevailing values.

Wheat, good to choice	$12 00 @ 13 50
Wheat and Oat	8 50 @ 11 00
Tame Oat, fair to choice	7 50 @ 11 50
Wild Oat	7 00 @ 10 00
Barley	7 00 @ 9 00
Alfalfa	9 00 @ 11 00
Compressed	10 00 @ 13 50
Straw, ₱ bale	40 @ 60

Millstuffs.

Bran and Middlings are in more than ample stock for present requirements, and the market is easy in tone, but not materially lower, supplies being mostly in few hands. Rolled Barley and Milled Corn are offering in moderate quantity at quotably unchanged figures.

Bran, ₱ ton	$20 00 @ 21 00
Middlings	24 00 @ 27 00
Shorts, Oregon	21 00 @ 22 00
Barley, Rolled	22 50 @ 23 50
Cornmeal	31 50 @ 32 00
Cracked Corn	32 00 @ 33 00
Oilcake Meal	31 50 @ 33 00

Seeds.

Scarcely anything doing in Alfalfa. Stocks of Flaxseed are rather light. Yellow Mustard is in fair request; of the Trieste variety there is practically none on market. Bird seed is in slim supply.

Alfalfa, Cal., good to choice	$14 00 @16 00
Flax	1 80 @ 2 35
Mustard, Yellow	3 15 @ 3 25
Mustard, Trieste	3 25 @ 4 50
	Per lb.
Canary	7 @—
Rape	1¾@ 2½
Hemp	3½@—
Timotby	5 @ 5½

Honey.

There are no heavy offerings of any description, and especially is the market lightly stocked with choice white, either Comb or Extracted. Market for desirable qualities is moderately firm at current values.

Extracted, White Liquid	6 @ 6½
Extracted, Light Amber	5 @ 6
Extracted, Amber	4 @ 4½
Extracted, Dark Amber	3½@ 3¾
White Comb, 1-frames	12½@13
Amber Comb	9 @11

Beeswax.

Not much arriving. More than is offering could be readily placed. Values are ruling steady.

Good to choice, light ₱ lb	29 @30
Dark	27 @28

Live Stock and Meats.

Market for Beef was firm for best and easy for the lower grades. Veal was not in heavy supply and choice met as a rule with prompt custom at full current figures. Mutton commanded much the same prices as preceding week, but for the general run of offerings the market could not be termed firm. Lamb was in fairly liberal receipt and went at unchanged figures. Quotable values for Hogs were without appreciable change, but market did not display any special firmness, arrivals being rather large.

Allowing for the shrinkage of about 50%, which is exacted in buying cattle on the hoof, live cattle command as much or more per pound than dressed beef, the shrinkage exacted being the slaughterers' profit.

The following quotations for beef and mutton are based on prices realized by slaughterers from wholesale dealers:

Beef, 1st quality, dressed, net ₱ lb	5½@ 6½
Beef, 2nd quality	4½@ 5½
Beef, 3rd quality	4 @ 5
Mutton—ewes, 6@6½c; wethers	6½@ 7
Hogs, hard grain, 140 to 200 lbs	4⅝@—
Hogs, large, bard, over 200 pounds	4½@ 4½
Hogs, small, fat	4½@ 4¼
Veal, large, ₱ lb	7 @ 8
Veal, small, ₱ lb	8 @ 9
Lamb, spring, ₱ lb	8 @ 8½

Hides, Skins and Tallow.

There is a good demand for Hides and current values are being well maintained. Pelts are in fair request at quotably unchanged figures. Tallow is being shipped outward in considerable quantity, prices remaining tolerably steady.

Nothing but select hides, clean and trimmed will bring full figures. Culls of all kinds, either from grubs, cuts, hair slips, side brands or murrain, are not always readily placed at the lower figures.

	Sound.	Culls.
Heavy Steers, over 56 lbs	— @10	— @ 9
Medium Steers, 48 to 56 lbs	— @ 9	— @ 8
Light Steers, under 48 lbs	— @ 8½	— @ 8
Heavy Cow Hides, over 50 lbs	— @ 8½	— @ 8
Light Cow Hides, under 50 lbs	— @ 8¼	— @ 8
Stags	— @ 6½	— @ 6
Wet Salted Kip	— @ 9½	— @ 8½
Wet Salted Veal	— @10	— @ 9
Wet Salted Calf	— @11	— @10
Dry Hides	— @16	— @15
Dry Kip and Veal, 11 to 16 lbs	— @13	— @12
Dry Calf, under 4 lbs	— @18	— @16
Pelts, long wool, ₱ skin	1 00@1 50	
Pelts, medium, ₱ skin	70@ 90	
Pelts, short wool, ₱ skin	40@ 65	
Pelts, shearling, ₱ skin	15@ 30	
Horse Hides, salted, large prime, each	2 75@——	
Horse Hides, salted, medium	2 50@——	
Horse Hides, salted, small	2 00@——	
Horse Hides, dry, large	1 75@——	
Horse Hides, dry, medium	1 50@——	
Horse Hides, dry, small	1 00@——	
Tallow, good quality	4 @4½	
Tallow, poorer grades	2½@3½	

Bags and Bagging.

Business in this department is of a light order, as is almost invariably the case at this time of year. In quotable values there are few changes to record.

Bean Bags	$ 4¾@5
Fruit Sacks, cotton	6¾@6¾
Fruit Sacks, jute, as to quality	5¾@7
Grain Bags, Calcutta, 22x36, spot	5½@5¾
Grain Bags, San Quentin, ₱ 100	4 75 @——
Wool Sacks, 4-lb	32 @——
Wool Sacks, 3¼-lb	30 @——

Poultry.

Demand was less active than during previous week, but receipts were also materially lighter. Chickens in prime to choice condition brought nearly as good figures as had been ruling, large young stock receiving the preference. Turkeys did not receive much attention. Ducks had to be large and fat to be especially sought after. Inquiry for Geese and Goslings was not very brisk. Pigeons other than fancy young were in ample receipt for the immediate demand.

Turkeys, Young, ₱ lb	$ 20 @ 22
Turkeys, live gobblers, ₱ lb	14 @ 15
Turkeys, live hens ₱ lb	15 @ 16
Hens, California, ₱ dozen	4 50 @ 5 00
Hens, large	5 00 @ 0 00
Roosters, old	4 00 @ 4 50
Roosters, young (full-grown)	5 00 @ 6 00
Fryers	4 00 @ 4 50
Broilers, large	3 00 @ 3 50
Broilers, small to medium	2 50 @ 3 00
Ducks, old, ₱ dozen	4 00 @ 4 50
Ducks, large young, ₱ dozen	4 50 @ 6 00
Geese, ₱ pair	1 50 @ 1 75
Goslings, ₱ pair	1 75 @ 2 00
Pigeons, old, ₱ dozen	1 25 @ ——
Pigeons, young	1 50 @ 2 00

Butter.

Market for choice to select fresh presented a firm tone, stocks of this description being rather light. Defective qualities of fresh moved slowly. Trade is running largely on cold storage holdings, domestic and Eastern, to the detriment of fresh, other than the best grades.

Creamery, extras, ₱ lb	26 @27
Creamery, firsts	24 @25
Creamery, seconds	22 @23
Dairy, select	23 @24
Dairy, firsts	22 @23
Dairy, seconds	19 @21
Mixed Store	14 @—

Cheese.

There has been a little more movement in flats, but values are without quotable improvement. Young Americas are offering in considerable quantity from Oregon and market is easier in tone. Eastern cheese is being quite steadily held.

California, fancy flat, new	9½@10
California, good to choice	9 @ 9½
California, fair to good	8½@ 9
California, "Young Americas"	10 @11
Eastern	10 @13

Eggs.

Market was firm for strictly choice to select fresh, especially for such as were uniformly large and white. Eggs running irregular as to quality met with a slow market at rather low prices. Large quantities of Eastern and cold storage eggs are now being used.

California, select, large, white and fresh	34 @36
California, select, irregular color & size	28 @33
California, good to choice store	25 @28
Eastern firsts	23 @26
Eastern seconds	20 @22

Vegetables.

Market was liberally supplied with most kinds now in season and there was a generally easy tone, especially for other than most select qualities. Some extra choice offerings went to special custom at higher figures than were warranted as regular quotations. Onions were rather steadily held, although not in active request at extreme current rates.

Beans, Lima, ₱ lb	2 @ 3
Beans, String, ₱ lb	1½@ 2½
Cabbage, choice garden, ₱ 100 lbs	75 @ 1 00
Corn, Green, ₱ crate	75 @ 1 25
Cucumbers, ₱ box	25 @ 50
Egg Plant, ₱ box	30 @ 50
Garlic, ₱ lb	3½@ 4½
Okra, Green, ₱ box	30 @ 50
Onions, Yellow Danver, ₱ ctl	1 00 @ 1 25
Peas, sweet garden, ₱ lb	2½@ 3½
Peppers, Green, ₱ box	30 @ 60
Summer Squash, ₱ box	25 @ 50
Tomatoes, box	25 @ 60

NOTE.—Large boxes are what are known to the trade as "pay boxes," which have to be returned or paid for. They are open top, with band holes in the ends, and weigh when filled from 50@60 lbs gross. Small boxes are free boxes, about the same as the regular fruit box, weighing when full from 20 to 30 lbs. gross.

Potatoes.

Demand was light most of the week, but prices remained about as last quoted. Most of the stock here represents pur-

chases by dealers, and cannot be sold materially below current rates, except at a loss. Sweets were in fair supply and demand for them not very brisk.

Salinas Burbanks, ₱ cental	1 00	@	1 30
Potatoes, white, ₱ cental	60	@	85
Sweet Potatoes, ₱ cental	1 00	@	1 25

Fresh Fruits.

Market for most kinds of fresh fruit has ruled decidedly more quiet than preceding week, the number of visitors in the city being much smaller and the weather cooler. Prices averaged lower for nearly all varieties, although it was the exception where choice to select tree fruit sold at any marked decline from the figures which had been ruling. Apples were in increased supply, offerings including considerable stock of common quality for which there was little demand. Fancy 4-tier Gravensteins and Bellefleurs met with a tolerably firm market. Peaches were not in heavy receipt, were mostly Freestones, and in fine condition brought comparatively good prices. Bartlett Pears are offering sparingly and there are few which can be termed choice. Winter varieties of Pears are coming forward in moderate quantity, but are not receiving much attention, being too hard for immediate use. Plums and Prunes were not in very heavy supply, but prices were without special improvement. Table Grapes were plentiful and market was in the main favorable to buyers. Wine Grapes were salable in noteworthy quantity only at low figures. Melons did not do so well as previous week, despite lighter offerings of nearly all kinds. Berries were in rather limited receipt and many showed serious injury from recent hot weather; for such as were in first-class condition the market was firm at full current figures.

Apples, Gravenstein, ₱ 50-box	1 10	@	1 50
Apples, good to choice, 50-lb. box	1 00	@	1 25
Apples, fair to good, ₱ box	65	@	1 00
Blackberries, ₱ chest	2 00	@	4 00
Cantaloupes, ₱ crate	50	@	1 25
Figs, Black, 2 layers	35	@	70
Figs, Black, ₱ large box	50	@	1 00
Figs, White, ₱ small box	30	@	50
Grapes, Black, ₱ crate	35	@	60
Grapes, Muscat, ₱ crate	40	@	75
Grapes, Seedless, ₱ crate	40	@	60
Grapes, Tokay, ₱ crate	50	@	75
Grapes, Isabella, ₱ crate	50	@	75
Grapes, large open boxes	50	@	1 00
Huckleberries, ₱ lb	6	@	8
Nutmeg Melons, ₱ box	35	@	60
Peaches, freestone, ₱ pay box	65	@	90
Peaches, freestone, ₱ free box	40	@	85
Pears, No. 1 Bartlett, ₱ 40-lb box	1 00	@	1 25
Pears, Bartlett, No. 2, ₱ box	60	@	90
Pears, Winter Nelis, ₱ box	65	@	1 25
Plums, Large, ₱ box	50	@	90
Prunes, ₱ box	40	@	65
Quinces, ₱ box	40	@	65
Raspberries, ₱ chest	5 00	@	9 00
Strawberries, large, ₱ chest	2 50	@	6 00
Watermelons, ₱ doz	1 25	@	4 00

Dried Fruits.

Market for cured and evaporated fruits has not changed materially since date of last review, and continues to show in the main healthy condition. Apricots are now largely in second hands and considerable quantities have been already forwarded outward; current values for this fruit are being well maintained, particularly for the higher grades. New crop Apples are beginning to arrive rather freely, and as was anticipated, the markot is in consequence easier in tone and slightly lower. Pears are not offering in heavy quantity, particularly choice to fancy, for which there is the most inquiry and the most firmness to the market. Peaches are in fair supply and mostly of high average quality; buyers in search of common or cheap stock would find it necessary to pay relatively firmer figures, quality considered, than for choice. In fact, large orders for a low grade peach would be very difficult to fill on the present market. Plums are being offered rather sparingly, and that choice pitted will go begging for custom this season is not probable. Prune market shows no appreciable change for the better, although the yield will be undoubtedly lighter on account of the recent hot weather. The last steamer for Australia carried 43,000 lbs. dried fruit, exclusive of Raisins, and including 15,000 lbs. Prunes, 12,500 lbs. Apricots, 10,300 lbs. Apples, 3500 lbs. Peaches. The steamer Queen, sailing the past week for British Columbia, carriod 62,000 lbs. dried fruit, Prunes making 39,500 lbs. of the shipment. The steamer City of Puebla, sailing Monday for British Columbia, carried 82,340 lbs. dried fruit, including 63,600 lbs. Prunes, 8125 lbs. Apricots, 5625 lbs. Apples.

EVAPORATED OR BLEACHED.

Apples, 50-lb boxes, rings, pressed, good to choice	5½	@	6
Apples, extra choice to fancy, 50-lb boxes	6	@	6½
Apricots, Moorpark	8	@	11
Apricots, Royal, good to choice, ₱ lb	7½	@	8½
Apricots, Royal, fancy	9	@	10
Figs, 10-lb box, 1-lb cartons	50	@	65
Nectarines, Red, ₱ lb	5	@	—
Nectarines, White and Yellow	5½	@	6
Peaches, unpeeled, good to choice	5¾	@	6½
Peaches, unpeeled, fancy to extra fancy	7½	@	8½
Pears, standard, ₱ lb	5½	@	6
Pears, choice to fancy	7	@	10
Plums, Black, pitted	5¼	@	6½
Plums, Red, pitted	6½	@	8
Plums, Yellow, pitted	6½	@	7½
Prunes, Silver, good to fancy	3½	@	7
Prunes, in bags, 4 sizes, 1⅝@1¾c; 40-50s, 3⅛@3⅝c; 50-60s, 2⅞@3c; 60-70s, 2⅜@2½c; 70-80s, 1⅞@2c; 80-90s, 1⅜@1½c; 90-100s, ⅞@1c; small, ⅜@½c.			

COMMON SUN-DRIED.

Apples, sliced	3½	@	4½
Apples, quartered	3½	@	4½
Figs, White, in bulk	2½	@	3½
Figs, Black	2½	@	4

Raisins.

The detail work attending the transfer of Raisins from the Growers' Association to the packers is understood to be fully completed. There has been lately considerable outward movement, stocks having been reduced within the past sixty days about 6,000 tons. The last steamer for Australia took 33,000 lbs.

Citrus Fruits.

Offerings of Oranges are light, and the demand for this fruit is also very limited at present, values remaining without noteworthy change. Lemons have fared better than for some time, stocks having been greatly reduced and recent sales being at slightly improved prices, especially for best qualities. Limes were in light stock and higher.

Oranges, Valencias, ₱ box	1 50	@	3 00
Lemons, California, select, ₱ box	3 25	@	3 50
Lemons, California, good to choice	2 50	@	3 00
Lemons, California, fair to good	1 50	@	2 50
Grape Fruit, ₱ box	2 00	@	3 00
Limes, Mexican, ₱ box	5 50	@	6 00

Nuts.

While Almond market is lightly stocked and very few offering from first hands, the bids of dealers are not in keeping with the prices they are asking. On a lot of Nonpareils submitted by a broker to the wholesale trade the past week, the bids were uniformly 13c., with the exception of one firm, which bid 12½c., the same firm asking 17c. for its own stock. The Walnut market is bare. Peanuts are in light supply and steadily held.

Nonpareil Almonds	13	@	16
I X L Almonds	12½	@	14½
Ne Plus Ultra Almonds	12	@	13
Languedoc Almonds	9½	@	10½
Peanuts, fair to prime	5	@	5½

Wine.

There are no appreciable changes to record in the general condition of the wholesale wine market. Dry wines of 1903 vintage are quotable at 15@18c per gallon, San Francisco delivery, these figures being based largely on the views of growers, wholesalers not taking hold freely at this range. Sweet wines of 1903 are quotable at 30c per gallon, delivered at wineries. Dry wine grapes are quotable at $10@15 per ton, the Association naming $10 for Sonoma county product. On sweet wine grapes the Association names no price, but lets growers submit figures to be accepted or rejected as the Association sees fit. Great damage was done to growing grapes by last week's hot weather. Shipments of wine outward by sea last month were 361,000 gallons and 240 cases, value $118,800. The steamer Acapulco, sailing on 10th inst., carried 122,246 gallons and 52 cases, including 121,876 gallons for New York. Receipts of wine last week were 273,350 gallons, and for preceding week were 272,600 gallons.

Produce Receipts.

Receipts and exports of leading cereals and other California products for the past week and for the season to date, as compared with the corresponding time the previous year, are as follows:

FOR THE WEEK.		Since July 1, 1904.	Same time last year.
Flour, ¼ sks	44,524	983,327	1,284,562
Wheat, ctls	60,383	406,756	436,818
Barley, ctls	124,480	687,059	1,534,897
Oats, ctls	27,302	203,941	298,106
Corn, ctls		17,319	27,280
Rye, ctls	2,545	12,312	18,813
Beans, sks	3,687	35,010	27,180
Potatoes, sks	17,453	239,146	252,096
Onions, sks	2,739	30,302	38,577
Hay, tons	3,940	53,867	56,347
Wool, bales	885	12,232	12,676
Hops, bales	329	731	2,430

EXPORTS BY SEA.

FOR THE WEEK.		Since July 1, 1904.	Same time last year.
Flour, ¼ sk	11,324	753,072	798,968
Wheat, ctls		43,021	141,591
Barley, ctls		280,001	1,049,687
Oats, ctls		4,306	6,348
Corn, ctls	628	3,279	3,818
Beans, sks	112	5,102	4,130
Hay, bales		30,821	37,514
Wool, lbs		704,522	1,260,659
Hops, lbs	206	7,695	6,546
Honey, cases		331	198
Potatoes, pkgs	1,148	16,936	17,353

LARGE CLING PEACH.—Hanford Journal: W. J. Wilson brought in to-day some very fine samples of the Orange cling variety of peaches. They were raised on his ranch at Grangeville. The largest weighed 18 ounces and was 12 inches in circumference.

CITY BUYS 160 ACRES OF LAND.—The City Council of Pasadena has bought 160 acres of land to become a part of the municipal sewer farm, at a total cost of $24,000. The land comprises a full quarter-section, known as Section 14 of Township 1, and lies immediately north of the present sewer farm and extending from the present northern boundary of the farm to the Southern Pacific tracks at Alhambra. Its addition will make the farm exactly 1½ mile long and ½ mile wide, except for a jog containing twenty acres in the southeast corner. The new land is higher than the old and far better situated than any other contiguous land that might have been purchased. A sandy wash that runs through it will be capable of taking care of such surplus water as may accrue in the distant future should the city outgrow the farm area now secured.

POISON 200 SHEEP OUT OF 700.—Alturas special to Sacramento Bee: A band of sheep was recently poisoned between Likely and Madeline in Modoc county. The sheep were the property of C. A. Estes and B. F. Lynip of Alturas, and were being driven on the road to the railroad station at Madeline for the purpose of being shipped to market. About 200 out of the bunch of 700 sheep died. Several of the dead sheep which were in the cars when the train on which they were shipped reached San Francisco were examined, and it was found they had been poisoned with saltpetre. No clue has yet been discovered which can be used to trace down the guilty parties. The outrage seems to be merely the result of a bitter prejudice existing in that vicinity against sheep. Lynip and Estes seem to be well liked, having no enemies in that part of the county, so far as publicly known.

ATTACKED BY A BULL AND SAVED BY ANOTHER.—Lodi Sentinel: A bull owned by C. Northrop, near Acampo, broke into J. McKindley's pasture, where there were cattle grazing, last Saturday. One of the hired men got a horse and started to head off the bull, but the animal turned upon the horse and rider. After knocking the horse down on the ground, with the man's legs pinned under the horse, the bull commenced his attacks upon both. Fortunately, and remarkable to relate, a bull belonging to Mr. McKindley came to the rescue. By attacking Mr. Northrop's bull and engaging him in combat, the bovine of heroic instinct gave Mr. Stetson, the rider, and his horse an opportunity of escaping. Stetson received a severe wound in the side and several bruises.

New Patents.

DEWEY, STRONG & CO.'S SCIENTIFIC PRESS PATENT AGENCY, 330 Market St., S. F., has official reports of the following U. S. patents issued to Paoific coast inventors:

FOR THE WEEK ENDING AUGUST 30, 1904.

768,646.—TURBINE—D. F. Asbury, Seattle, Wash.
769,048.—SPIKE EXTRACTOR—E. Bebler, Los Angeles, Cal.
768,737.—CAN LAPPING MACHINE—F. A. Dixon, San Jose, Cal.
768,789.—TROLLY POLE CONTROLLER—M. O. Dolson, Los Angeles, Cal.
769,064.—RAILWAY TIE.—Dowell & Morrison, Roseburg, Or.
768,791.—BED BOTTOM—J. W. Efaw, Seattle, Wash.
768,794.—BOTTLE—F. Franz, S. F.
768,988.—HYDROCARBON LAMP—Grant & Stewart, Portland, Or.
768,897.—CUSPIDOR CARRIER—C. H. Gunn, Angels, Cal.
769,082.—ROTARY ENGINE—C. Hendricks, Riverside, Cal.
768,800.—SPLIT PULLEY—S. C. Hitchcock, Tacoma, Wash.
768,663.—SAW PROTECTOR—J. A. Jackson, Oakland, Cal.
769,095.—HULLING MACHINE—H. Kurth, Portland, Or.
768,764.—RHEOSTAT—G. I. Leonard, Pasadena, Cal.
768,815.—POWER SET WORKS—H. McCleary, Tacoma, Wash.
769,008.—SAW TEETH—J. & D. D. McMaster, Seattle, Wash.
768,766.—HOSE SUPPORTER—Mensor & Greenblatt, Seattle, Wash.
768,767.—GARMENT SUPPORTER—Mensor, Greenblatt & Petta, Seattle, Wash.
768,768.—SOUND TRANSMITTER—T. R. Owen, Los Angeles, Cal.
769,014.—CONVEYOR—W. E. Pedley, Riverside, Cal.
768,820.—LUBRICATING DEVICE—E. A. Rix, S. F.
769,022.—TYPE CARRIER—C. S. Rosin, Tacoma, Wash.
769,112.—OIL BURNER—A. C. Rush, Los Angeles, Cal.
768,776.—MOP WRINGER—C. E. Shaw, Spokane, Wash.
768,701.—WAVE POWER—J. H. Smith, Los Angeles, Cal.
768,826.—CASTRATING TOOL—F. Starr, Fossil, Or.
768,707.—BAND SAWMILL—E. E. Thomas, Tacoma, Wash.
768,638.—WOOL CONVEYOR—J. H. Tillinghast, Stockton, Cal.
768,640.—SHOVEL PLOW—W. G. Tower, Corona, Cal.
768,711.—ELECTRIC MOTOR—F. C. Watkins, Vallejo, Cal.
768,783.—RAILWAY SIGNAL—Watkins & Bethel, Seattle, Wash.
768,784.—PIANO ACTION—J. L. Wilson, Los Angeles, Cal.

GRAPE CROP NOT MATURING WELL.—Pasadena Star, Sept. 7: Growers of grapes are much discouraged over the outlook for a good crop. The continued hot weather of the past few days has lessened the chances of the growers materially. Not only has the crop been lessened, but the vines weakened by the scorching they have received. Insufficient moisture last year failed to put the vines in good condition, though there was enough rain that the vines cropped well. In their weakened condition they have been unable to carry fruit through to maturity. Irrigated grapes will come through with a fair crop. The wine makers are already beginning to sit up and take notice of the situation.

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Bright's Disease and Diabetes News.

Law Offices of Henley & Costello.
San Francisco, Jan. 20, 1904.

To the legal profession of California:

I was a witness to the following: About two years ago Prof. Yost of Palo Alto who was in an extreme condition due to advanced Bright's Disease, came to my office. He was attended by his physician who was himself a victim of Diabetes. The object of the visit was to meet a prominent business man who had for months been investigating an alleged cure for Bright's Disease and Diabetes, and hear his verdict. He declared that the claims were fully proven and that the cure had been discovered. Both Prof. Yost and his physician at once adopted the treatment. Within six months both were so well along toward recovery that they considered themselves beyond danger and at this date neither Bright's Disease nor Diabetes hold any terrors for them, and the physician is successfully using the treatment in his practice.

Learning that my old law partner, Judge R. R. Bigelow, for many years Chief Justice of the State of Nevada, had Bright's Disease and that though he had had four or five of our best physicians, yet that he had had to give up practice and was in a serious condition, I lost no time in telling him of the above. It resulted in his complete recovery and he is again back to active practice. As to the curability of chronic Bright's Disease and Diabetes I have no more doubt about it than that I am living.

Sincerely yours,
BARCLAY HENLEY.

The above refers to the newly discovered Fulton Compounds the first cures the world has ever seen for Bright's Disease and Diabetes. Send for pamphlet to Jno. J. Fulton Co., 407 Washington street, San Francisco.

DON'T BUY GASOLINE ENGINES UNTIL YOU INVESTICATE "THE MASTER WORKMAN," a two-cylinder gasoline engine superior to all one cylinder engines; revolutionizing gas power. Costs Less to Buy and Less to Run. Quickly, easily started. No vibration. Can be mounted on any wagon at small cost—portable, stationary or traction. Mention this paper. SEND FOR CATALOGUE. THE TEMPLE PUMP CO., Mfrs., Meagher & 15th Sts., Chicago, THIS IS OUR FIFTY-FIRST YEAR.

THE STOCK YARD.

Feeding Beet Molasses in Southern California.

The beet sugar factories in southern California are naturally endeavoring to promote the use of their waste product, the molasses, among the stock feeders of the vicinity. The Santa Ana Blade has an article which is particularly interesting as citing many items of local practice.

For Horses.—Molasses can be safely fed to horses. Apart from the nutritive material it supplies, it has a value as an appetizer, and frequently renders poor hay or other feed more palatable. There is an erroneous idea prevalent that molasses is laxative. Unless fed in excess at the beginning nothing is farther from the real facts. W. J. Cole states: He had a horse that scourged and which he was unable to cure for three months. In about one week, feeding molasses moderately, the horse was cured of the difficulty and has been all right ever since. He says, one gallon of molasses, one gallon of water, to four horses, fed once a day, has smoothed the hair and put them all in better condition. Sprinkled on barley hay it is worth the price, to save hay.

H. C. Lawrence fed to his family horse, which was thin: immediately gained and soon recovered her flesh—was more full of life—had no grain, only barley hay, rough and coarse, of poor quality. Also he fed his family cow first on sugar beets which he left off because they had the effect of nearly drying up the milk. He then began feeding molasses, alfalfa and bran, with the result that the hay was all eaten up clean and the flow of milk was restored to a larger quantity than before.

Dr. Boucher, veterinarian of Fullerton, says: "When animals are run down it acts as a tonic, being readily eaten and easily assimilated, and I know of nothing better to put them in condition. When in condition and working hard I find horses thrive on it, stand up to their work and gain in flesh, more readily than when fed on grain. When fed to milch cows, sprinkled on their hay, they eat up fodder that would otherwise be wasted, and are generally benefited."

For Cows.—On Dr. Boucher's recommendation, B. Mouliot is feeding molasses to his dairy cows and states:

"Am now feeding sixty head of milch cows on a daily ration of pulp 2½ tons, alfalfa 1½ tons and molasses 30 to 40 gallons, and my stock is doing finely. I have been feeding molasses to them for about ten months and I find it easier to keep them up in flesh on molasses than on any other feed." It will be noted that Mr. Mouliot has had pulp to feed only a portion of the above. His method of feeding is: Morning and evening, one gallon of molasses sprinkled on alfalfa to eight cows. He says he stopped using molasses for a short time and the milk went down in quantity and quality.

S. Edwards of Buena Park reports experience, fed to cows sprinkled on straw. Cows ate every bit of the straw; there is no waste at all.

S. N. Jennings, Clearwater: "Feeding to forty-seven cows, diluted one-half and sprinkled on straw, one quart per cow per day. Also feeding to pigs and calves with good results all around. Always give stock plenty of water."

Gus Hansen, Anaheim, feeding to forty-five head of cows sprinkled on hay, reports the hay is all eaten up clean and that "it is a hay saver all right."

At Clark's dairy on Los Cerritos rancho for two years past molasses has been fed to pigs and calves using skim milk as a medium, at first mixing in enough molasses to make it the color of whole milk and gradually increasing as the animal grows. This makes an ideal feed for them, keeping the young animals plump, healthy and rapidly growing until the pigs are marketed—no grain being needed to top them off for market—and the calves are turned out to pasture at four months old.

D. C. Ewing of Norwalk, after feeding molasses to hogs for a year, stated: "Now feeding twenty-six head, method, in skim milk, 300 pounds for the twenty-six head with the addition of 1½ gallons molasses. When the pigs weigh over 100 pounds the molasses is increased to 2 and 2½ gallons. For the purpose of thickening the milk, shorts are added after the pig weighs 100 pounds. Have turned off in the year fifteen head at 6½ cents, fifteen head at 7 cents and six head at 6¾ cents."

For Hogs.—A year later, Mr. Ewing says: "For two years I have fed molasses to a herd, averaging sixty head of hogs, using as a medium skim milk, proportions 1½ gallons molasses to a barrel of milk, which it is my intention now to increase to three gallons for same quantity of milk. The results have been most satisfactory to me and the health of the herd has been equally as good as formerly. My experience is that molasses is a better fattening feed than corn and much cheaper. An important thing liable to be overlooked in the care of hogs is that they be supplied with plenty fresh, and if possible, running water—if so supplied they will do a third better than if deprived of it and there will then be no danger of overfeeding.

My present plan is to feed young pigs skim milk and molasses, beginning with one gallon molasses to a barrel of milk, gradually increasing molasses and keeping them growing on that feed to time of marketing. At the last I put just enough shorts or bran to thicken the milk so that the feed will not be too watery for the small hog stomach. During the time I have fed molasses, I have turned off fat hogs regularly at the best market price and its use has saved me a great deal of money compared to what the expense would have been had I fed grain instead. As I am often short of milk I intend to heat up sugar beet pulp and add molasses giving alfalfa hay as an auxiliary feed to make up a balanced ration."

We might multiply testimonials ad libitum, but molasses is so generally used as stock feed that in any neighborhood it will be easy to find numbers of people who have already given it a thorough trial.

As a barrel of molasses weighs about 500 pounds and costs but 75 cents at the factory, it will be plainly seen that the price is very much below its real value.

Beginners are cautioned to feed lightly for first ten days and at all times give stock plenty of water.

Feeding Value of Grapes.

We have had several references to the subject of late. Prof. M. E. Jaffa of the State University recently prepared the following: While it is true that all the elements necessary to support life are found in the grape, it must not be forgotten that the main nutritive ingredient is the sugar. The nitrogenous elements so necessary in all rations are present only to a very small extent in the grape, fresh or dried. If a milch cow were to depend on fresh grapes to support the nitrogenous part of her diet, she would have to consume between 150 and 200 pounds a day—a somewhat difficult task.

Grapes, either fresh or dried, should only be fed as a substitute for part of the grain in the ration. As shown in the article above referred to, raisins and wheat contain about the same amount of carbohydrate matter, which, in the former case, is mainly sugar, and in the latter starch. Consequently if raisins were used as a food for dairy cows or other animals, some highly concentrated nitrogenous material, as the oilcake meals or gluten meals, would or should be fed in connection therewith to supply the deficiency in nitrogen.

Food Value High.—The food value of sugar is very high as found by the results of many scientific investigations, references to several of which can be furnished if necessary. At the same time it must be borne in mind that while sugar has a high nutritive value when used rationally, it is far easier to bring about digestive disturbances with sugar, owing to the ease with which it is assimilated, than with starch.

If wheat were worth $20 per ton, then the approximate feeding value of fresh grapes would be about $5 per ton and that of dried grapes in the neighborhood of $20.

The approximate feeding value of grapes and raisins, compared with alfalfa hay at $10 per ton, would rate $3 and $12, respectively. The corresponding figures for alfalfa hay selling at $12 per ton are $4.50 to $15. But as before stated, however, it is advisable to use the fresh fruit or dried as a substitute for part of the grain ration and not to replace the hay to any extent.

Feed Ration.—Just how much fruit can be fed with safety to the different farm animals cannot be definitely stated. Careful experimenting on the part of the feeder would soon determine that point. As much as 20 pounds daily of raisins and dried figs have been consumed by large hogs with satisfactory results.

Imperfectly dried raisins would be excellent for stock food. It certainly would not be advisable to silo grapes, owing to the alcoholic fermentation which would result from the siloing of such material.

Care in Handling Kafir Corn.

Mr. C. B. Barrett of Kansas gives the Orange Judd Farmer an outline of practice in his State which will be read with interest in the interior valleys of California:

To obtain the highest quality of fodder, Kafir corn should be harvested while the grain is in the dough, just before hardening. It readily ripens in the shock, while the blades, if cut while still green and succulent, are rich and nutritious.

For harvesting large fields no method can excel cutting and binding with a good corn binder. Farmers in our section who have tried this method seldom follow any other. Being tied in bundles, the fodder is much more easily handled, both at shocking and feeding time, and as the stalks are slender and topheavy they stand up much better when bound. If, by chance, a bundle is blown or falls from its place in the shock, it is damaged only on one side, while if the same amount of loose fodder were to become dislodged and scattered on the ground it would all soon become moldy and unfit for feeding.

Another advantage of binding is that after cutting, if the weather is favorable, the Kafir corn may be allowed to remain on the ground and partially cure before shocking. In case the stocks are very succulent this is a good plan. One man can easily keep pace with the binder in shocking, thus doing away with so much help, which at this season of the year is scarce and expensive.

Harvesting Small Fields.—Where small fields are harvested the corn sled and corn knife are used. It is a good plan when the crop is cut in this way to bind the shocks securely with binder twine to prevent scattering. In putting up the shocks always bear in mind that unless headed the birds will claim the outside layer of grain, so it is well not to let too much of it be exposed to their ravages. The grain, however, should never be stored until it is thoroughly dry and ripened. As there are weed seeds and waste grains in abundance long after the crop is cut, the birds do not usually molest the grain in the shock until the winter sets in, so it has plenty of time to cure before storing.

Heading in large fields is usually done by means of a knife, worked by a lever, and fastened to the wagon box. Two men are usually required to do this work, one to feed the cutter and the other to operate it. An easy way of heading where the stalks do not vary too much in height is to lay the bundle across a heavy block of wood and with a sharp corn knife sever the stocks just below the heads. If thoroughly cured, these may be cribbed the same as corn in the ear, but this is scarcely advisable unless one possesses a mouse-proof crib.

Threshing and Storing.—A much better plan is to have it threshed and stored in bins like wheat. It is then ready to run through the feed mill and be converted into meal or chop for feeding. While it is not always necessary to grind the grain for feeding, I have often found it advantageous, especially when mill stuffs are scarce or high-priced.

After heading the fodder may be reshocked, or hauled to a convenient place and stacked. The stacks, however, should have a covering of slough grass to shed the rain, or the fodder will rot.

Cutting Kafir With a Mower.—Kafir corn sown broadcast is most frequently cut with a mower and allowed to remain on the ground for several days to cure. If the weather is very dry, with bright, sunshiny days, it may be stacked in three or four days. The easiest method, and the one that gives the best satisfaction when the crop is fed out early, is to gather up with a horse rake, going around an area of sufficient size to furnish material for a good-sized, well rounded pile or cock. Work gradually toward the center, dumping each time as near the central pile as you can get. Then with a fork round and smooth the pile, throwing on a few extra forkfuls to allow for settling. Fodder put up in this way will keep for some time, and makes an excellent feed.

There is absolutely no danger in feeding Kafir corn to stock if it is cut at the right time—that is, before the stocks become too woody, or before it is nipped by frosts. In the rush to harvest the Indian corn before frost, Kafir corn is often neglected until badly damaged, and cases of injury to stock are almost always traceable to this source. So valuable a crop deserves care in handling and judgment in feeding.

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The chance for profit in squabs, says the Orange Judd Farmer, depends entirely on the quarters in which the birds are kept, the health and vigor of the breeding stock and attention given them. A good pair of mated birds will produce six to eight pairs of squabs a year, and the prices range from $2 to $4 per dozen.

The buildings and equipment need not be expensive, but according to the tastes and means of the breeder and the amount of capital he wishes to put into the business. In a report of the New Jersey Board of Agriculture, George L. Gillingham says: The houses should always be placed where the drainage is good, preferably upon a dry knoll facing the south or southeast.

Some paying lofts have been made by fitting up unused wagon-house or woodhouse lofts, or even over hen houses. Other houses have been constructed for poultry on the ground floor and the story above used for pigeons. In this case great care must be exercised to have the floor well laid with plowed and grooved flooring to keep vermin from passing up from the poultry. When houses are built on the ground the floor should be made of cement to insure perfect dryness; a floor 1½ to 2 inches thick will be sufficient. These, as well as board floors, should be covered 1 inch deep with dry, coarse sand.

Attached to and in front of the house a fly should be constructed, to afford exercise for the birds in the open air and sunlight. These should be the full width of the house, or single sections of each house, and extend out fully 25 or 30 feet in front. The frame of the fly is made of hemlock posts 2x3 inches and 8 feet above the ground; these are fastened together at the top and bottom, also at the middle, with hemlock boards 6 inches wide. On these are nailed wire netting of 1-inch mesh, not larger, or you will feed more sparrows than pigeons. Avoid any cross boards in the middle of the fly to obstruct the flight of the birds, as this would often result in the injury of birds on occasions of sudden fright. Upon these posts, near the top, fasten brackets, and nail to them boards 6 inches wide to furnish the birds with a place to alight and walk when not in flight.

Very large flocks should not be kept in one room; from 50 to 100 pairs is enough to keep together for the very best results. A room 10x12 feet is ample for fifty pairs of working birds. The house should have windows on the south side of sufficient size to afford ample light in all parts. Around the sides of the room nests should be constructed, 10x12 inches and 8 inches high. They are made with boards 10 inches wide, and onto these nail strips 1 inch square and 8 inches apart, fasten the edge of these against the side of the house 12 inches apart, extending from the floor to the ceiling. When in position boards cut 12 inches wide, with cleats 3 inches high nailed on one side are placed on these strips and form the bottom of the nest, the 3-inch cleat forming the front to keep the nest in place and the young from falling out.

These nests occupy the entire side of the house with no waste space and no outside foot rest for birds to light upon and run along in front of the nests to fight and drive others from the nests as cross birds sometimes do. Some breeders use square boxes, hung on hooks, but these are not as economical of space, not as easily cleaned and also have many places for quarrelsome birds to interfere with others. In cleansing those just described, the bottoms are pulled out like a drawer and with one stroke of a trowel are cleaned and replaced.

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Cyclopedia of Agriculture.

Some weeks ago we noted the preparation of a new Cyclopedia of Agriculture by Messrs. Wilcox & Smith, published by the Orange Judd Co. The authors are connected with the Department of Agriculture at Washington, and have had the use of a full collection of the publications of the experiment stations in their compilation of the latest facts and methods. The work serves, therefore, as a compendium of information, and is quite up to date and valuable for reference. The book has over 600 pages, well printed and fully illustrated, and can be ordered at $3.50 per copy, cloth bound, from the Pacific Rural Press, 330 Market street, San Francisco.

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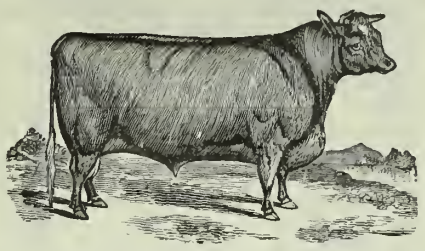
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FRUIT PRESERVATION.

Making Cider and Vinegar on the Farm.

From a paper by L. R. Bryant, Secretary Illinois Horticultural Society.

It is essential in the making of good cider and good cider vinegar that clean, sound apples be used: rotten, dirty apples, leaves, trash and grass will affect the flavor and quality unfavorably. Small apples are all right if mature, and the dropped ones can be utilized; but care should be taken in assorting them. The juice of early apples is deficient in saccharine matter, and will not make cider that will keep or vinegar of the necessary strength. But it can be mixed with that from late apples for vinegar.

Cleanliness is an Important Feature.—In all processes of cider and vinegar making care should be taken to keep all utensils clean and in good condition. Cider and vinegar should not be allowed to stand in metal vessels. All barrels and kegs should be thoroughly cleaned as soon as emptied. A small chain is very convenient for this purpose, putting it in the barrel with a pail or two of water and shaking thoroughly so as to reach all parts. If barrels are not to be used immediately, they should be placed with the bunghole down, so that they may drain out thoroughly dry, or they may become musty, and a musty barrel will soon spoil its contents.

In Making Vinegar. — Commence with the earlier apples as soon as they are mature, sorting them as noted above, putting the fresh juice, as soon as made, preferably in open tanks covered with a thin cloth to keep out insects, adding fresh juice from time to time as made. If tanks are not available, put the juice in barrels, leaving the bungs out and keeping them filled up during the first fermentation, so that the impurities may work out through the bunghole.

For convenience have the barrels or tank raised from the ground about 2 feet, so that the contents may be racked off directly into other barrels with a hose used as a siphon, or with a faucet. Racking with a siphon is a very convenient way, as it is quickly done and saves much time and trouble. Hose used for this purpose should be about ¾ inch in diameter, stiff enough not to kick or collapse, and 6½ to 7 feet long. In use, raise the end of the hose about an inch from the bottom of the barrel which is being drawn from, so as not to disturb the sediment which may have accumulated.

When the first fermentation is fully completed, and the juice is settled and clear, it should be racked off into clean barrels and the empty ones thoroughly cleaned, ready to be used again. These barrels should be filled only about three-fourths full and should be racked up in a warm place for the winter. A furnace-heated cellar is a good place, but a cool cellar will not facilitate vinegar making.

If a warm room is not to be had, use a shed enclosed on all sides, so that it may be darkened in warm weather to keep out flies, and from the beetles which bore into the heads and staves of the barrels, causing much trouble and waste from leakage. It is not advisable to rank up the barrels outside in the sun, as they will be apt to be infested with borers, and the sun will warp and shrink them and much of the stock wasted.

This shed, being in a position exposed to the sun, will become very warm in the summer, and the stock may be left in it until turned into vinegar. Remember that exposure to heat and the action of the air is what causes acetic fermentation, or the process of vinegar making. Therefore, keep in a warm place and have the barrels not over three-fourths full. When the vinegar is fully made, rack off again into other barrels for sale or storage, mixing the contents of several barrels, so as to have uniformity of strength and color.

If desired, the "feeding process" may be used. Have one or more barrels three-fourths full of finished vinegar to start with. At intervals draw off a certain small amount for sale, or storage until wanted, and add the same amount from the stock barrels, being careful to put in nothing but clear, sour stock. This, if in a warm place, will quickly turn to vinegar, when the process may be repeated, being careful not to add too much at a time or too often; this is to keep up the strength.

Cider for Table Use.—In making cider for use as a beverage or to keep during the winter months, a treatment directly opposite to that intended for vinegar is necessary. Good keeping cider can not be made in warm weather. For winter use it should be made as late as possible, preferably in freezing weather, out of good apples, of course, and racked off after being allowed to settle two or three days, after which, if it can be exposed to cool weather and allowed to thoroughly chill, then stored in a cool place, it will keep a long time without fermentation. When stored, cider is better ranked up as directed for vinegar, and after it has lain any considerable length of time should be racked off when moved. The barrels should be kept full and bunged tight, unless there is danger of fermentation, when vent must be given.

To be kept absolutely sweet for a long time, cider must go through a pasteurizing process or else some preservative must be used.

FRUIT MARKETING.

California Fruit at the World's Fair.

The distribution of 20,000 pounds of fruit and 7000 bottles of wine to-day at the California Day, September 9th, at the World's Fair, celebration, caused a panic, in which, fortunately, nobody was injured.

In the rush to enter a narrow passageway about 200 feet long, leading to an immense support 35 feet long and 15 feet high, from which the fruit was distributed, women and children were knocked about, trampled upon and crushed. Dresses were torn and hats and caps thrown to the ground and kicked about.

There was fruit and wine for everybody, and had the crowd kept in line a panic would not have occurred. Despite this unfortunate occurrence, the California Day celebration was one of the feature events of the entire exposition. Unlike her sister States, California held her exercises in the open air.

The audience occupied seats under trees, beneath which was the speakers' stand, artistically decorated with the California colors of gold and white. The ceremonies began at 11 o'clock, when President Francis delivered an address of welcome to the sons and daughters of the Golden West and all other Californians visiting the fair. President Francis congratulated the people of California on the splendid exhibition which the State has made in all departments of the World's Fair, and expressed his appreciation of the splendid work done by the Commission and those connected with the various California exhibits. He paid a tribute to the sturdy qualities of the ancestors of the sons and daughters of the Golden West and praised the labor of their sons.

A reception was held at night at the San Francisco building, most of the guests afterward attending Payne's spiral fireworks exhibition, the features of which were set pieces representing Governor Pardee and C. E. McLaughlin.

The Eastern Shipment of Fruit.

The shipment of fresh fruit this season to the East, says the Sacramento Union, is considerably behind the shipments of last year to the same date. On September 1, 1903, there had been shipped from California a total of 4722 carloads of deciduous fruits. The total this year is only 4150 carloads, a fall off of 572 cars. This is the fruit handled by the California Fruit Distributors, which practically means all the fruit of the State. No matter who the shipper is the distributors handle it.

There are two notable decreases this year from last year. In 1903 a total of 231 cars of apricots were sent East. This year only 97 cars were shipped.

In 1903 a total of 1442 cars of peaches were sent to the Eastern market. This year only 480 carloads of peaches have found their way to the East. Plums have fallen off some. Last year 1115 cars of plums were sent East up to the first day of September. This year 1050 cars had gone out to the same date.

Pears show a notable increase. And it may be remarked in passing that prices have been good. On September 1st, last year, 1413 carloads of pears had gone out. On the same date this year an even 1900 carloads had been sent East. Last year 297 cars of grapes had been shipped. This year 400 cars had gone forward on the same date.

The figures given for 1903 are accurate and are furnished by the courtesy of the California Fruit Distributors. The figures for 1904 are approximately correct, but not absolutely so, since the records are not fully complete.

The Figures.—One may set a comprehensive idea of the movement of fruit to the East from the following comparative statement.

Total shipment of deciduous fruit from the State for 1903 and 1904 up to September 1st:

	1903.	1904.
Cherries	211	209
Apricots	213	97
Peaches	1,442	480
Plums	1,115	1,050
Pears	1,413	1,900
Grapes	294	400
Apples	16	14
Total	4,722	4,150

Note.—Figures of 1903 accurate: figures of 1904 approximate, as record of all cars will not be available until the end of the season, but is very near the actual figures.

A Decision Against Routing by Railways.

Judge Olin M. Wellborn of the U. S. Circuit Court last week announced his decision in the case of the Interstate Commerce Commission against the Southern Pacific and the Atchison, Topeka & Santa Fe companies and their connecting lines, holding that the arbitrary routing of citrus fruit shipments by initial lines is opposed to the provisions of the Interstate Commerce Act, in that it destroys competition and places the shipper at the mercy of the railroad companies.

Judge Wellborn ordered a decree entered granting a writ of injunction, or other proper process, mandatory or otherwise, to restrain the defendant companies from further continuing in their disobedience of the orders of the Interstate Commerce Commission to discontinue the pooling arrangements between the roads in interest. Attorneys for the complainant were instructed to prepare findings in accordance with the decision.

Exceptions were entered on behalf of the Southern Pacific and Santa Fe railroad companies. Judge Wellborn intimated that there was nothing upon which to base exceptions at this time, and the matter was continued until the decree can be entered in due form. Application was made by attorneys for the defendant companies for copies of the opinion, and it is probable that an appeal will be taken at the earliest possible moment.

The opinion is considered a most important one and promises to be far reaching in its effect. Every phase of the question is considered, and on every point the court ruled in favor of the shippers. Judge Wellborn makes copious extracts from the testimony of Paul Morton, former second vice-president of the Santa Fe Company, and of other prominent railroad officials, in which they say that the arbitrary routing of citrus fruit shipments was for the purpose of stopping the rebate system, which, it was claimed, was to the detriment of the small shippers, and in order to maintain tariff rates.

Judge Wellborn holds that this position is untenable and against both the letter and the spirit of the Interstate Commerce Act. He also quotes at length from the opinion of Supreme Justice Shiras as to the spirit and intent of the Interstate Commerce Act. In the original prayer of the complainant it is asked that the offending railroads be ordered to discontinue the arbitrary routing of citrus fruit shipments, and that from June 20, 1902, they be fined $500 for every day that it is continued.

Corrals a Rare Crop.

The strangest suit ever brought in San Bernardino county is being prepared by the District Attorney, to be filed against P. Filanc, a wealthy young rancher of East Colton, who has actually confiscated a costly county bridge. The recent cloudburst which swept Redlands, destroying much property, lifted the Colton avenue bridge, crossing the San Timoteo creek, from its foundation, depositing it 1000 feet down stream and in the center of Filanc's pasture.

When he discovered the structure he instantly placed a guard over it, who was instructed to see that nobody removed it. The roadmaster's demand for the structure was refused, Filanc declaring that he had good law for laying claim to the bridge. A committee from the Board of Supervisors waited upon Filanc and found that he had built a barbed wire fence about the stranded bridge, and to the committee he also turned a deaf ear.

Filanc does not allege damages to his property, but contends that an act of Providence has placed him in possession of the structure, and he will defend any act which may be brought.

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THE BOTANIST.

Plants on the Ditch Bank.

Mr. Charles E. Jenny continues his interesting outdoor sketches in the Fresno Republican with reference to the plants on the ditch bank: Of the water plants in our ditches, the Saggitaria latifolia or arrowhead is the most conspicuous, both on account of its large arrow-head shaped leaves which give it its name, and the raceme of white flowers. Its leaves, shaped like the barbed flint and quartz arrowheads of the American aborigines, and often nearly a foot long, float on the surface or are reared above it. The flowers stand out at nearly right angles from the stout scape in whorls of three. They have three broad white petals, in the center of which are the numerous istils.

All along the ditch banks the water pepper, Polygonum hydropiper, hangs its long narrow racemes of whitish flowers. The stems are often reddish and the joints are always swollen, like all polygonums. The leaves are long and lancolate and have a peppery taste to them sufficient to bring tears to the eyes and shame tobasco sauce. The flowers have no petals, but the sepals, being whitish, resemble petals. The seeds, which fill out round the calyces, are shiny black and three-angled.

Intermingled with the water pepper, are the taller and slenderer plants of the fireweed or autumn willow herb, Epilonium paniculatum, with their pinkish flowers airily dancing at the ends of the long branches, while below the curled and split dry pods an inch or two long are intermeshed with the fine silky down of the seeds, like milkweed floss. The leaves are small and willow-like and usually folded at the midrib. The flowers and pod appear at the same time, the former growing upon the latter, which gives the plant its name. The petals are four, placed at right angles to each other and each divided into two lobes, looking almost as if they had eight petals. Waving at the top of the filiform branches, they are very graceful.

One of the common aquatic plants is the sedge named Cyperus serrulatus; with its clustered spikelets of scale-like flowers often so heavy as to droop the three-angled, sharp edged stems, but more often erect with the long lance-like bracts set at various upward angles. It is as handsome a piece of greenery as can be imagined when closely examined, and that it has been appreciated is borne witness to by the frequency with which a cultivated species, known as the umbrella plant, Cyperus alternifolia, is seen adorning Fresno porches. The cultivated species has come to grow in pots and tubs that are kept quite damp, but its wild relative always prefers to wade knee-deep in water. In general appearance they are so much alike as to be recognized at once as near relatives, with the attractiveness rather in favor of the wild species.

The ditch banks constantly vary their attractions with the season, but there is always something green blooming there, and always something of interest to watch.

Some of the canals with their dense overhanging shrubbery and weeping willows present most artistic vistas and California avenue, with its long double line of poplars shading the canal, was pleasant to drive along before it became the back door yard of Russiantown. Some attention to our permanent ditches will do as much as anything to make our county attractive to visitors as well as to our resident selves.

AGRICULTURAL ENGINEER.

More Oiled Roads.

The State Department of Highways at Sacramento reports that in San Benito county 8 miles of road were oiled in 1903, on a sandy loam soil, covered with coarse sand. The roadbed was first graded and slightly crowned, and all hollows filled. After oiling, it was harrowed and enough sand put on to absorb all surplus oil, and then rolled until solid. Glover's road oiler, attached to a 1200-gallon steel tank, was used. On the first application 100 barrels of oil per mile for a 12-foot strip were used, and fifty barrels per mile on the second application. The oil was obtained at Watsonville at a cost of 55 cents per barrel. The work of oiling and sanding cost $37 50 per mile in addition to the cost of the oil Eight miles more will be oiled this year.

The State Department of Highways also reports that the city of Santa Monica has 6 miles of oiled streets, begun in 1902. The soil is sandy, with some gravel, and is first loosened with a plow to a depth of 3 or 4 inches, then thoroughly wetted down, and the next day the oil applied, after which it is harrowed until the oil is mixed well with the soil, then a small quantity of beach sand is spread on top and well rolled. On newly graded streets about 2 inches of gravel is put on after the oil and then rolled. In applying the oil a common street sprinkler was used for some of the work, and an iron tank used for hauling oil, with an oil sprinkler attached. The streets are oiled their full width of 54 feet. The blocks are 400x680 feet.

On the first oiling one gallon to 4 square feet was used, and after an interval of two weeks a second application, one-fifth greater in quantity than the first, was made. The oil was obtained from the Westlake Park district, Los Angeles, at a cost of 70 cents per barrel. It was heated to 100° by steam coils in an iron tank at a cost of 25 cents per barrel. It was of 12° gravity and 25% asphalt.

Where the streets become dry by evaporation of the oil, they are wetted occasionally, which has a tendency to draw the oil to the surface. Rows of shade trees are regarded as a distinct benefit, as the streets thus protected are found to keep in better condition than those exposed to the sun. Eight miles more of streets will be oiled this year.

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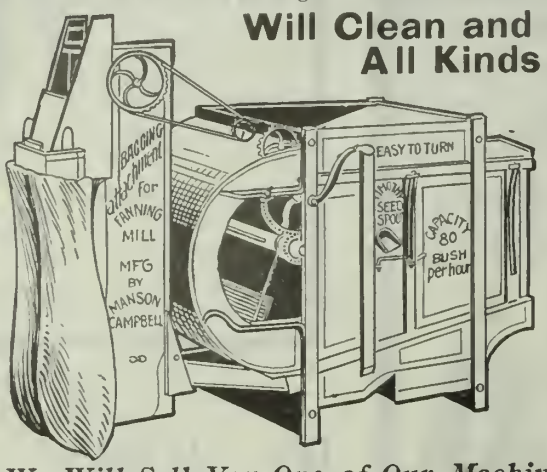
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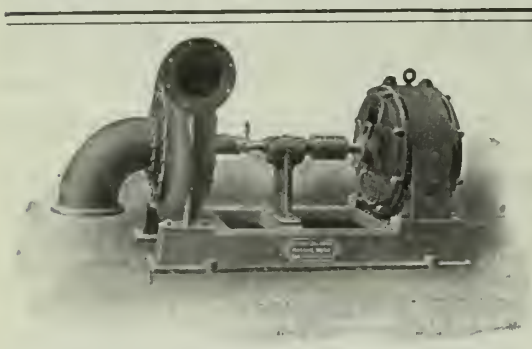
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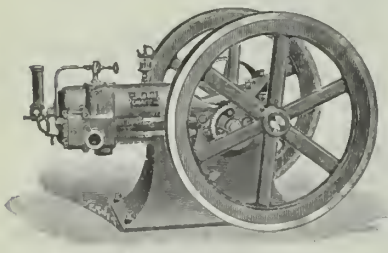
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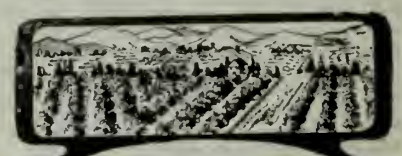
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Vol. LXVIII. No. 13. SAN FRANCISCO, SATURDAY, SEPTEMBER 24, 1904. THIRTY-FOURTH YEAR. Office, 330 Market St.

Lake Tahoe State Highway.

We have given much attention to the State Highway which is to cross the Sierra Nevada from Tuolumne to Mono counties, and we still have interesting views which may make it desirable to return to the subject at some later date. At present, however, we desire to show that the State has other undertakings in mountain crossing and is assuming maintenance and new construction to the extent that is possible with funds made available by the Legislature. The road we especially have in mind crosses the mountains to the north of the Tioga highway. It is called the Lake Tahoe State Highway and is entirely situated in El Dorado county, commencing at the junction of the Newtown and Placerville roads, a short distance easterly from Smith's Flat, has its terminus at a point on the east boundary line of the State of California, at or near Lake Tahoe, traversing about 58 miles of mountainous country. Owing to the character of the country traversed, a great amount of repair work was found to be necessary to keep the road open to travel; still, for a mountain road, it is far above most roads in California through similar country. It has an average grade of 7% and traverses El Dorado county easterly and westerly along the beautiful South Fork of the American river. The upper picture upon this page was taken on the grade descending to the river and is about 17 miles east of Placerville. The old corduroy remains shown in the engraving were placed there in the early days, when the road was in the hands of a toll company and was the emigrant road leading to the great Nevada mines.



Lake Tahoe State Highway, Showing Remains of Old Corduroy Road

The history of the undertaking as sketched by the present State Highway Commissioner, Mr. N. Ellery, is interesting. During the period from the acquisition of the road by the State in 1895 to 1899 only ordinary repairs were made and these not wholly of a permanent character. At the legislative session of 1899 there was appropriated the sum of $25,000 for the improvement of the road and the structures thereon and to make a survey of the road. With this money at the disposal of the Commissioner, a survey was commenced in the fall of 1900, marking all crossings, topographical features, width of road and grades and locating points for milestones, etc., and the survey was about half done when the winter rains closed in. In 1900 also there was built a fine stone bridge at Riverton to replace a decaying frame structure and this bridge we will show at another time This bridge with its approaches was completed in 1901. The Legislature, at the regular session in 1901, appropriated the sum of $9200 for the salary of the Commissioner and maintenance of the highway for the two years ending July 1, 1903. By exercising economy, the appropriation was sufficient to keep the road in repair and in addition to construct four new bridges, twenty-seven stone culverts, and repairs to a number of retaining walls. It will soon be necessary to do more. Some of the present structures are very old and must be replaced by permanent structures. To maintain this road and to continue it around parts of Lake Tahoe will be greatly to the advantage of mountain travel in that part of the State.



Lake Tahoe State Highway, Showing Bed of American River on Right.

The lower engraving on this page shows the picturesqueness of the route along the American river. At the point of the picture the roadbed is about 16 feet in width, cut out of the hillside of broken granite and earth. For several miles along the American river the road is through timber. At this point the road is covered with decomposed granite sand.

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The Week.

Although the weather has been rather active on the Mexican system and has worked up some local storms in the extreme south of California, the greater area of the State is still waiting for the first demonstrations of the rainy season, and just now it looks as though September might slip through dryshod. The temperature has been delightful beyond description. The dreamy haze has dulled the edge of the sunshine, the moonlight is ecstatic and outdoor duties and delights are pursued with exceptional satisfaction by day and night. It looks as though the latest fruits and grains would be safely gathered. This means much, for the canners are doing all they can to fill their peach pack with the late varieties, and table grapes are going overland in unusually large quantities and likely to make a record year. Wine grapes are also proving of greater value than was threatened last month. Thus all the fine days are going on the right side of the ledger and the aggregate will be considerable.

Wheat has floundered around again in Chicago and the week ends lower and weaker than it began. In the California markets, however, there is little change and a fairly steady tone in the speculative trade, while spot wheat has not changed at all. One charter for wheat and barley, made prior to arrival, was at 21s 3d, and another for barley straight at 21s to the United Kingdom One cargo, mostly barley, has cleared since our last. Barley is unchanged and firmer; minor cereals are steady to firm. Beans are unsettled by free arrivals, but bear efforts seem to avail little, as there is understanding that both the acreage and product are light this year. Bran is weak and in heavy supply, while middlings are less affected, though in good stock. There is little change in hay; fancy wheat and tame oat still escape the weakness which affects other grades because of the fear of supplies held back. Meats are unchanged, pork being firmest of the lot, owing to packers' activity. Fancy butter is high and scarce, while common grades still suffer. Cheese is in liberal supply, unchanged and quiet. Fancy eggs are higher and common are neglected. There is good demand for choice chickens, but little inquiry for other feathered stock. Potatoes are slow and not firm, though there is some movement to Alaska and Hawaii. Onions are quiet and barely steady. Apples are in heavy supply and largely poor; other tree fruits are scarce, choice peaches and pears selling well. Oranges are firm and lemons easier and in lighter demand, while limes are lower. Table grapes are abundant and cheap, but wine grapes have improved both here and in the country. Choice Zinfandels have sold here up to $21. Dried fruits are all in good shape except raisins and prunes; low-grade peaches are scarce and choice pears higher; apples are weaker, but still above normal. Almonds are still stiffly held by jobbers, but buying rates are below, though I X L's have sold at 11½@12c. Walnut prices are expected at the end of this week. There is a little movement in honey and the best is firmly held. Hop receipts are larger, but there is no outward movement yet; sales are at 24@28c and some asking more. Wool buying goes on in the country at good prices; there is nothing here, as there is no wool to trade on.

The pear blight is doing at least one good thing. It is waking up some counties to the importance of having some one in the employ of the county whose business it is to hunt dangerous diseases and insects and help people to fight them. Solano county has long been a leading fruit county and still strangely neglectful of the ways for protecting the trees and vines which the law provides. There are many exceedingly well informed and energetic fruit growers in the county, it is true, and they have had to fight singly or in groups against troubles which should have been put down, or, at least, circumscribed, at public expense, and now they propose to operate in that way. A petition largely signed by influential growers has gone to the county supervisors asking for the appointment of a county board of horticultural commissioners to take up the duties prescribed by law, to the end that orchards, trees, nursery stock, plants, etc., may be authoritatively and legally inspected and the proper remedial action taken, or, if too seriously diseased, that they be destroyed. Many orchards, particularly the pear orchards, are threatened with a dangerous disease known as "pear blight," and it is essential that same on its first appearance be kept in complete subjection. This is sound doctrine. It only remains to secure men who know more about fruit diseases than about political fences and see that they keep busy. Other counties should jump into the Solano county boat at once.

The Supreme Court has decided that the coyote scalp claims must be paid. Those who have secured court judgments are at liberty to take their money at once. The aggregate amount of the claims is nearly $250,000. The Supreme Court holds that the act was valid and that the State cannot repudiate its contract. That seems to be common sense as well as good law. If there was fraud under the law so much the worse, but a dead coyote is worth money and the State ought to pay for it. The situation at present is that there are many other coyotes which the State ought to kill. The varmints have had a walkover ever since the law fell into contempt because of evil doers. Coyote killing should begin again on a safer basis.

The northern part of the coast is either getting more than its share of the Western apple shipments, or is making most noise about it, and in either case our growers should make note of it. It is telegraphed from Portland that the Asiatic steamship Arabia will carry 5200 boxes of Oregon apples to the Orient on its next trip. This is the first consignment of apples for the Far East this year, and is one of the largest that has ever gone from Portland to that destination.

It is comforting to be assured by the new State Veterinarian, Dr. Charles Keane of Sacramento, that while anthrax is and has been prevalent in several localities in the northern parts of the State, the conditions are by no means alarming, and prompt quarantine in affected counties has put each outbreak under complete control. The disease is localized, and is most prevalent along river bottoms. The danger of general infection is well understood by the cattlemen, many of whom have been for a long time taking the precaution of vaccinating their cattle. In all other respects the cattle in the northern portion of the State, says Dr. Keene, are looking remarkably well and healthy.

The experienced Eastern river engineers, Major Dabney, Major Chittenden, Major Richardson and M. A. Nurse, have been recently engaged in personal study of the tributaries to the Sacramento and San Joaquin rivers, and expect to prepare their report to the Governor about August 15. It is anticipated that this report will serve as a basis upon which systematic river improvement and land reclamation may be pursued under National and State authorities, and this winter's Legislature may have something to do toward that end.

The World's Fair poultry show at St. Louis is expected to be the greatest ever held, as more than 7000 birds have been entered. California will have a representation in the coops, and Mr. Henry Berrar of San Jose will be one of the judges.

In these days of safe illumination it seems strange that a man should go about a brandy outfit with a naked candle, and that is what was done at the Natoma winery on Tuesday of last week. The result is that property worth nearly a quarter of a million dollars was destroyed, and the loss is all the greater because the means of utilizing the grape crop now ready are destroyed and the grapes must be hauled to another concern many miles distant. We are losing too much by fire in this age of improvements and business sagacity.

QUERIES AND REPLIES.

Potatoes Running to Top.

To THE EDITOR:—We planted some potatoes about the first of July in the river bottom on land where alfalfa was plowed up a year ago. The ground was in excellent condition. The seed was old seed Oregon Burbanks and everything seems to be going to top. They stand 3 feet high and there are very few potatoes on the vines. The ground is nice and moist and everything seems to be favorable for a good "lot of tops." I have always before planted new seed with good success. What is the cause of the trouble? —SUBSCRIBER, Salida.

We do not know what is the matter unless it be that the plants are having too good a time with an excess of moisture and plant food. The potato is something like the tomato in being spoiled by too much prosperity. If the soil dries a little and the frost does not cut off the tops too soon you may get more potatoes than you expect later in the season, but it is not good for a potato plant to get too much headway. We do not know of any treatment that would be practicable on a large scale. Sometimes it is claimed that mowing off about half the tops will start the tuber growth, but we have no experience upon which to recommend it. The subject is open for discussion.

Morning Glory Again.

To THE EDITOR:—How can I destroy the morning glory which covers up about one half acre of my place? I have had the plants pulled out by hand, had them pulled by cultivator, but they grow back almost as fast as they are removed. The ground they grow on is black adobe.—N. R., Sunol.

We have already answerd this question several times, but will try it again. The only practical way to reduce morning glory consists in continually cutting t beneath the surface with a horizontal weed knife, or with a flat-toothed cultivator, with the teeth kept sharp and set so as to underrun the whole surface. Continually pulling the shoots or stirring up the surface with an ordinary cultivator does not accomplish this result, because the success of the method described above consists in never allowing a shoot to come to the light; consequently never to become green, nor to add to the strength of its roots by the action of the air upon the foliage. If, then, the shoots are continually cut below the surface and never have a chance to reach the light the plant is smothered. This under cutting must be done at regular intervals, say once a week, without any show of color on the surface or else it will fail. This is, of course, an expensive process because it has to be pursued say once a week all through one season and perhaps longer, but the reduction of the plant under this treatment soon becomes evident and the success of it is witnessed by the fact that it is almost universally adopted by those who have nerve enough to undertake the reduction of this plant.

Kaffir Corn.

To the Editor:—I write to know if the raising of Kaffir corn has ever been tried in this State, and if so, in what part of the country, and with what success? Also where the seed could be procured, and whether or not the Dwarf Essex rape has ever been grown successfully in the State during the winter months?—Subscriber, Cloverdale, Cal.

These questions have been fully answered both by our own comments and by the experience described by correspondents. Kaffir corn is a non-saccharine sorghum which is largely grown in the interior valleys of California all the way from Shasta to San Diego counties. It is grown both for the grain, which has a feeding value something like that of barley, and also for green forage instead of Indian corn, which it surpasses in heat and drouth resistance. In the coast valleys it is not so satisfactory because the summer heat is not adequate for its best growth, and yet in the hotter parts of the coast valleys, and you live in one of them, good results can be had with Kaffir corn, especially on the lighter soils Dwarf Essex rape is a winter growing plant in California; it is too rebellious against dry air to amount to much in the summer except on moist bottom lands, and they can be used to better advantage in summer than in growing this plant.

Seedless Fruits in California.

To the Editor:—I wish to send to a European correspondent an account of what California has done in producing seedless fruits—oranges, grapes, apples, plums, cherries, etc. Will you kindly furnish the information?—Reader, New York City.

The only seedless fruits which have reached commercial importance in California are the Navel orange, Thompson's Seedless and the Sultana grapes. The Corinth grapes have also been grown in a small way in California, but have never reached commercial importance. None of these seedless varieties were produced in California, the Navel oranges coming from Brazil, the Thompson's Seedless, Sultana and Corinth grapes coming from Europe.

Mr. Luther Burbank, Santa Rosa, Cal., has produced stoneless plums. They cannot be called seedless, because most of the specimens contain a plump kernel, but devoid of a stony covering. One variety is sometimes called Miracle plum. It has not yet been introduced to the public, but the whole stock is controlled by the originator, and any correspondence relating to it should be sent to him. There is no comprehensive publication on the subject of seedless fruits; their literature consists of references in our horticultural books and reports, and more recently in popular magazines and newspapers also.

Roses From Cuttings.

To the Editor:—Please inform me as to the manner of propagating the rose and the proper season for same and oblige.—J. R. L., Gilroy.

For amateur propagation and for open-air growth of roses generally, the best way to proceed is to use well matured wood of the previous summer growth. Make cuttings of such wood after the leaves fall early in the winter, using wood the size of a pencil, more or less, and about 6 inches long. Plant these in good loam about two-thirds of the length of the cutting underground, and firm the soil well around the base of the cutting. Most of our strong-growing roses will root readily and make a good, large bush with the growth of the first season, if well cultivated and given water as required.

Training Eucalyptus.

To the Editor:—What time of the year is best to cut back young blue gum trees, with the object of growing a bunch of sprouts instead of one main stem?—M., Aptos.

You can do it by pinching the tip of the seedling when it reaches the height at which you desire branching. You can cut back the two-year-old for the same purpose, and you can saw off the old tree and pollard it—keeping it growing limbs or poles indefinitely. And you can do the cutting back whenever you like. We never saw a blue gum discouraged by cutting back.

Ladybugs for Cottony Cushion Scale.

To the Editor:—Where can I get ladybugs for cottony cushion scale?—Subscriber, Salida.

The distribution of beneficial insects has been regularly carried out for some years by the State Board of Horticulture from its office in the Ferry building in San Francisco. The work is now in the hands of Mr. E. F. Ehrhorn, Deputy Commissioner of Horticulture, at the above address. It is always desirable to send a specimen of the scale you wish to reduce when sending for parasites, so that he may see exactly what you have to deal with. There are many people who do not know the cottony cushion scale from the woolly aphis, and it is well to show Mr. Ehrhorn that you do.

Bald and Beardless.

To the Editor:—Can you tell me if there is any difference in the so-called bald and beardless barley? If so, which will ripen the earlier? What is the best preventive of rust on field corn?—C. E. L., Hopland.

Beardless barley has no awn or "beard;" bald or naked barley has no adherent husk, but falls out of the head, when threshed, as a grain of wheat. There are a considerable number of varieties of each kind in the world; of those grown in California we can not tell which is earlier. Perhaps some reader will cover the point in a letter. Corn rust, like wheat rust, can be prevented by spraying with Bordeaux mixture just before the rust usually appears, but we have no idea that the treatment would pay. It is better to watch for a variety which does not rust enough to hurt.

Dipping Chickens.

To the Editor:—Will you kindly publish in the columns of your valuable paper a solution for dipping chickens to rid them of lice and mites.—O. B. W., Davisville.

You can dip hens in kerosene emulsion if you make it properly—just as you do for spraying plants—but dipping hens is seldom done, as any of the lice powders which you can get at the stores will probably be effective if carefully used, and powdering is less mussy and tedious than dipping. But to get rid of lice you must go much further than the hen; you must keep the houses, nests, etc., clean of lice by free use of sharp lime wash and kerosene. The hen will clean herself if you will keep her habitation clean.

Black and Soft Orange Scales.

To the Editor:—I send leaves from an orange tree, also an oleander leaf with a black scale. A similar scale frequently appears on the orange tree. Can you tell me the diseases and suggest a remedy?—Cambrian, Cambria.

The oleander has the black scale all right, and the orange may easily get the same, but the orange leaves you send have the soft orange scale. Both scales can be cleared out on a few trees of small size by thorough spraying with kerosene emulsion, taking care to wet every portion on the leaf and limb surface. Give them a good soaking now and another in a couple of weeks to knock out the survivors. It is a good time of the year to do it.

Tar Weed—Dry Plowing—Red Oats.

To the Editor:—Please tell me how to exterminate tar weed and sunflower, whether to mow or plow these. Is dry plowing possible in stubble in Yolo county? Will red oats yield on heavy, low soil here?—New Subscriber, Woodland.

Tar weeds are annuals and can be run out by any operation which keeps them from seeding. Usually mowing is easier than plowing, unless you plow for another purpose and catch the weeds on the way. You can dry-plow in Yolo county, but there may be a question whether it is profitable or not. There is a difference of opinion on that point. Red oats will yield well with you, unless destroyed by rust or shattered by hot winds. But few oats are grown in the interior. The red and black varieties are usually hardier than the white.

Sugaring of Prunes.

To the Editor:—Will you kindly explain the cause and best method of preventing prunes candying or becoming disfigured by the exudation of a white, sugary substance after they have been stored some months? Does the Sugar prune ripen earlier than Splendor, and, if so, what is the difference in the time of ripening?—Subscriber, South Australia.

Our prune handlers have no particular manipulation to prevent the sugaring of prunes. It is believed that the finishing dip which is given to the dried fruit before packing (viz., water 80 gallons, glycerine 6 quarts, glucose 8 quarts, used boiling hot to the prunes dipped only for an instant) has the effect of maintaining a gloss upon the fruit and preventing the appearance of the sugar coating, providing the prunes are packed under pressure and kept in a tight package after the final dipping. The Sugar prune is about as much earlier than the Splendor as that variety is earlier than the French.

WEATHER AND CROPS.

Report of the U. S. Weather Service for Week Ending September 19, 1904.

Alexander McAdie, Forecast Official and Section Director.

Sacramento Valley.

The weather was cooler than during the preceding week and conditions were favorable for fruit drying and maturing the grape crop. Grape picking is progressing rapidly and in some sections the first crop has been nearly all gathered. Shipments are being made to markets and wineries and small quantities are being dried for raisins. The yield of grapes is heavy in all sections and the quality excellent. Prunes in Tehama county are turning out better than expected in yield and quality; picking and drying are still in progress. Almond harvest is nearly completed; there is a fair crop of good quality. Citrus fruits are in excellent condition and prospects are good for a large crop. Hop picking and baling continue. Fires in Glenn and Shasta counties last week caused considerable damage.

Coast and Bay Sections.

Generally cool weather prevailed during the week, with heavy fogs in portions of the coast districts. The forest fires last week caused less damage than reported. Prunes are nearly all gathered and drying is progressing; the yield in San Benito and Sonoma counties is larger than expected and the quality good. Winter pears are yielding a better crop than estimated in some sections. Apples have been badly damaged by codlin moth and a light crop is probable. Grape picking continues and heavy shipments are going forward to markets and wineries; the crop is large and the fruit of excellent quality. Citrus fruits at Cloverdale are in excellent condition. Hop harvest in Sonoma county is completed and baling is progressing; the yield is heavy and quality excellent. Beans are nearly all gathered; the crop is large in Lake county and fair in the south.

San Joaquin Valley.

Clear and seasonable weather prevailed during the week which was very favorable for maturing and drying fruit. Rapid progress has been made in harvesting the raisin crop, and the first picked have already been turned on the trays. A continuation of the warm, clear weather during the present week would bring a large portion of the crop to the turning point. Large shipments of grapes are being made to the wineries. Prune picking and drying are progressing rapidly. Most of the canneries have closed after a long pack of fine fruit, mostly peaches. Large shipments of hay and potatoes continue from Stockton and vicinity. Farmers are busy summer-fallowing and a large wheat acreage is expected next year. Stock are reported healthy.

Southern California.

Clear, warm days and cloudy nights prevailed most of the week. Severe thunder storms and heavy cloudbursts occurred in the mountain districts of San Bernardino and Riverside counties on the 12th and 13th, causing much damage to railroads and mines. Mountain streams were running as full as during the heavy winter rains. In the fruit districts conditions were favorable and raisin making progressed rapidly. The grape crop is large and of excellent quality. Fall apples in the foothill districts are yielding a good crop and winter apples are ripening. Citrus fruits are in fair condition. Mr. J. B. Neff, crop correspondent at Anaheim, states that:

"The walnut crop will not be larger than it was two years ago. There has been considerable dropping of damaged nuts in the last two weeks, and in some localities the walnuts are small because of want of water and overloaded trees. This applies to the entire valley."

Los Angeles Summary.—Cooler weather; demand for water notably diminished. Mountain storms continue. Oranges show signs of early ripening in some localities. Ranchers expect wet winter and are preparing to put in big crops. Pear drying in progress.

Eureka Summary.—Cool and foggy along the coast, but hot and dry in the interior, where rain is much needed. Farmers harvesting barley and picking apples.

Rainfall and Temperature.

The following data for the week ending 5 A. M. Wednesday, September 22, 1904, are from official sources and are furnished by the United States Weather Bureau for the Pacific Rural Press:

California Stations.	Total Rainfall for the Week	Total Seasonal Rainfall to Date	Total Seasonal Rainfall Last Year to Same Date	Average Seasonal Rainfall to Date	Maximum Temperature for the week	Minimum Temperature for the week
Eureka	T	1.19	.82	1.21	60	48
Red Bluff	.00	.10	.00	.54	94	56
Sacramento	.00	.06	.00	.24	82	56
San Francisco	T	.08	T	.26	70	54
Fresno	.00	.00	.00	.23	100	56
Independence	T	.07	.00	.22	82	54
San Luis Obispo	00	T	.00	.27	76	48
Los Angeles	.00	.16	.00	.10	80	56
San Diego	.00	T	T	.13	80	60
Yuma	.00	.81	.04	.62	102	60

HORTICULTURE.

Shall We Continue to Plant Oranges?

By J. H. Reed of Riverside Before the University Farmers' Institute at Long Beach.

Did I hold a retainer from present orange growers to discuss the question, "Shall we encourage planting more orange trees in California?" considered only in their individual interest, it would be but a brief task set me and one with an easy conclusion. But I understand that I am expected to treat the matter on the broader lines of best general interests of our great industry. Individual interests are to be ignored, conditions that may be expected to modify the prosperity of the industry as a whole, in the future only, to be considered.

Taking this view of it, it is, as it seems to me, a problem of tremendous importance. I venture the assertion that in this broad republic, there is no similar area of country, now so prominent, in the eyes of all the land, and favorably so, as that of the orange-growing districts of southern California. The factor more than any other which has secured this prominence, this prosperity, which has built our beautiful cities, which has covered our valleys and hillsides with thrifty activity, which is crowding our transcontinental trains with new homeseekers and ever increasing sightseers to the land of sunshine, is our orange industry. What is to be its future? Has it reached the point where its decadence is to commence, or is it only finding the broader, solider foundation upon which is to be built a permanent prosperity not yet reached nor scarcely conceived of?

Fifteen years ago the orange industry attracted me to it. From that time I have been a devoted practical student of it; each year trying to peer into the future through experience acquired and careful study of changing conditions. You may not accept my conclusions, but they seem to me of so good foundation and of so favorable a portend I venture to ask your attention briefly to them, and to some of the reasons that have led to them.

The immediate future may not promise the large pecuniary returns that have been received at times in the past, but I confidently believe that well within the next decade the citrus industry in southern California will have reached a prominence—a promised permanence—an average prosperity that few even hopeful growers have dared contemplate.

But we must not be misled in this matter; hence I ask your most searching attention to the reasons which have led me to this faith, that any fallacies in my conclusions may be exposed in the discussions to follow.

Looking Back.—Let us for a moment look back. Orange culture was introduced into Florida over three centuries ago, but it has been only thirty-five or forty years since the fruit was first there in commercial quantities.

About 100 years ago the Mission fathers introduced the orange into this coast, where it was grown in a small way, till some forty years since a few commercial oranges were planted in the San Gabriel valley. Not till after the two Navel trees at Riverside came into bearing in 1878, did production of oranges become a distinctive industry in California.

In 1884, 225,000 boxes were shipped East. Five years later the number was increased to 1,245,000 boxes. Since 1890 the increase has been more rapid. During the season now closing we have sent forward about 10,000,000 boxes, an increase of nearly fifty fold in twenty years, a phenomenal development of a new agricultural industry seldom witnessed.

The Present.—Up to this time, in spite of this immense increase, the markets have taken the product at a greater or less profit to the better growers. But we have now come to an era in the history of the industry, as clearly indicated by the market conditions, when the volume of product has reached a point where it cannot be taken at a price that, under present conditions, will allow a satisfactory profit to the average grower—where those below the average at least must expect to suffer actual loss; and with the continued inevitable rapid increase in sight, I think few will question the fact that the proportion of growers now receiving a meager and uncertain margin of profit, as well as those sustaining continual loss, must materially increase. The ultimate end of this, present conditions continuing, must necessarily be the abandonment of large areas of orchards sooner or later, leaving the general outlook for the industry discouragingly uncertain—a view now taken by so many as to, if not materially depreciate the market value of orange property, at least severely check the sale of it.

A Better Outlook.—But I most confidently believe there is a brighter outlook for the future, which should be better appreciated and vigorously maintained.

First. Let us for a moment consider the causes of and results from present unfavorable conditions. Allow me to illustrate. When gold suddenly showed up in California in attracting quantities fifty or sixty years ago, men of all sorts and conditions hastened here to pick up the loose nuggets and wash the rich surface sands with all sorts of crude means and methods, yet with wonderful success. When the easy findings began to fail it was insisted by many that gold mining in California, in vulgar phrase, had "played out." But during even these early days intelligent miners had been carefully studying conditions, experimenting with methods, and bringing the best known mining science to their help. Crude methods paid no longer, but trained, scientific work succeeded, with the result that California soon had a distinctive, well established, immensely successful gold mining industry, of vastly more value to both individuals and the State than the heterogeneous unskilled gold seeking of the early days, though far less ado is made about it.

California orange growing has been following much the same course, and is now reaching the end of the first stage. The phenomenal success following the introduction of the Navel orange tempted men of all sorts to undertake orange raising. Men of every taste and profession, men with agricultural training and men utterly ignorant of soils and plant life, men giving it personal attention and men farming by proxy, went into it. Besides the promise of large pecuniary returns, that peculiarly fascinating characteristic of the orange tree which makes it the most interesting profit-producing plant known, with the delightful climate for homes in which it flourished, increased the number to engage in the industry. The produce was popular and sought for at prices which made it difficult for the grower to blunder through lack of skill or ignorance, without making a profit. It is not strange that careless, improvident methods have been fastened on the industry!

But the time for profit returning under them is now passed. The product heretofore largely taken as a luxury by the limited class of the well-to-do is now so greatly increased as to more than supply this want. Hence either the quantity must be reduced or it must be furnished at a price that will induce the well-to-do to use it more liberally, and to enable the vastly larger class of the less well-to-do to use it at least as a luxury if not as a food.

I hope I have succeeded in making this point clear, for upon it, in my opinion, the whole matter rests. If quantity of our product must be reduced, or even held where it is, to make it remunerative, in view of the large natural increase already in sight, it must be through the harsh means of the "survival of the fittest." This process, in fact, is already going on in the case of the extreme unfittest, and it is the opinion of many thoughtful men that this weeding out of the most unprofitable orchards, must rapidly increase to secure profitable production for any. The wide margin between the extremes of successful and unsuccessful orcharding readily admits of this. Under present conditions one-third of all our orchards could be wiped out, because of actual continuous loss in production, while another third returns a fair profit and the middle third average expenses. This process could continue till the equilibrium between production and good profits were restored. This would mean the end of stable values and general prosperity of the industry, and at best but a vacillating condition for even the successful grower.

But I believe—I am sure—there is an alternative—an alternative that may preserve our great industry, increase its extent, make its profitableness more permanent and uniform if not greater, besides greatly blessing the fruit-loving masses of the country.

Allow me to touch briefly upon the few leading factors upon which this new prosperity must, in my opinion, depend, and please do not think this is foreign to my special subject. I am sure that you will see it is most pertinent to it.

Conditions of New Prosperity.—First. Economical production. Improvident, ignorant, unskilled orchard methods must give place to intelligent, scientific, economical production. The notion that anybody, well or illy fitted, well or illy located, can raise oranges profitably, must be abandoned. Problems, the solution of which, for any reason, is beyond the efforts of growers, must be exhaustively investigated by State or Federal specialists.

Second. Improved product. We must squarely face the fact that the average quality of our fruit is deteriorating, and speedily and vigorously set about finding the causes and correcting them. The immense loss from this source, as attested by the vast quantities that go to the dump piles, and the larger amounts that should go there instead of to the markets to depress values of better qualities, is quite too little considered. Formerly, even low grades returned profit. That time has passed and practical, scientific heed must be given to raising the general standard of the quality of our product.

Third. Shrinkage from bad handling. The same reasons that have allowed deterioration of quality to go on unchecked, have allowed the increasing loss from harsh handling and unsanitary conditions in packing house, transportation and storage to continue unheeded, and the more obscure causes of poor carrying qualities from cultural conditions to continue uninvestigated—leakages that the new conditions demand shall have attention.

Fourth. Excessive cost of transportation. I am not going into this much discussed matter further than to make two statements, one of which you will readily agree to, that is that present charges could be materially reduced and leave a reasonable profit to carriers. To the other, some of you may not readily assent. That is that the blame for the reduction not being made lays as much at our own door as in the cupidity of the railroad managers. We go before the Interstate Commission and continuously before the public insisting that our margin of profit will not bear present tariff rates, then turn around and publish to the world in the interest of real estate men, instances of enormous profits received by growers. These exceptional instances are accepted as typical by railroad men as they are expected to be by investment seekers. They naturally say, "your profit on production is as excessive as ours on transportation. You take it without compunction, why not we?" President Ripley, when here last winter, expressed their opinion frankly in the private remark, "there is no danger of losing business by present freight charges so long as there is so large a margin of profit left the grower," referring to instances brought to his attention. The New York Outlook of July 9, discussing the "railroad problem" editorially, among other things says, "and the orange growers of southern California have been compelled during the last season to leave their oranges rotting on the ground, because the price necessarily charged in the East for oranges, in order to make good freight changes, has cut down the demand and so prevented shipment." In a letter to the editor from Mr. Paul Morton, in the Outlook of July 30, replying to this, he says: "I want to deny most emphatically the statement that you make that the orange growers of California have been compelled to leave their oranges rotting on the ground because of freight charges. * * * I do not believe there is any reasonable California citrus fruit man who thinks there is more profit in the transportation tax that is imposed on them than there ought to be."

I believe Mr. Paul Morton honest and sincere in his statements, hence I must conclude that he does not know the facts. A thousand carloads would be a low estimate for the amount of lower grades of fruit that have gone to the dump pile the past season, which could have been taken in the markets at profit, could it have been shipped at a reasonable rate. We are not accustomed to publish to the world our unfavorable conditions and results, but our exceptionally favorable conditions and profits are kept prominently in evidence, especially by those with ulterior purposes to serve.

Last year when the State Agricultural Department of Iowa requested of the railroads special facilities to present the importance of carefully selected seed and improved culture to the corn farmers of that State, they laughed at the request as absurd. But they listened, and were made to see that it was in their interest as well, and every facility was provided for scientists to meet the farmers in all parts of the State, in a special car without expense. The farmers were enriched by thousands of added carloads of corn, and railroads by the additional amount of hauling. When we show to the carrying companies, as may easily be done, that a reasonable reduction from present rates would be an important factor not only in preserving their present tonnage of citrus fruits, but in immensely increasing it in the near future, they will readily join with us in the effort of preserving and increasing our industry.

Fifth. Improved marketing methods. Probably no factor is to play a more important part in establishing the enlarged and more permanent prosperity of the citrus industry than the change in marketing methods in the near future. If we are to induce consumers to take 50,000 cars of oranges per annum at a profit to the grower within the next decade, as we must if present production continues unchecked, it is certainly evident that the margin between what the consumer pays and what the grower receives must be reduced to the minimum. This, I believe, will eventually be done by adopting the changed methods of marketing nearly all the great domestic productions of our country during the past third of a century. Well within the memory of many of us the bulk of the product of the New England textile mills, and of the metal and wood factories of the Middle States, was distributed from the great jobbing houses of New York and a few other large cities. To-day not only the large merchant of the city, but the dealer of good standing in the country town, selects those goods from the representative of these mills and factories, at his own place of business. The vocation of the jobber and commission man, once seeming so necessary, ended. This transition was made gradually and with much friction. For years old established jobbing houses competed with mills marketing their own goods direct. But the result was as inevitable as that the machine doing its work in a roundabout way, however good in itself, must sooner or later give place to one working direct. The large expense for sustaining jobbing houses, and the profit to the middle men, are now divided between the manufacturer and the consumer, the producer's business is immeasurably increased and the consuming public immensely better served. I understand full well that marketing agricultural and manufactured products are not parallel problems. The former is more difficult, but the principle of largely eliminating the middle man is practicable in that, as has

been amply shown in other branches of agriculture, as well as our own. It is true that it means the wiping out, gradually, of course, but effectively, sooner or later, of a great, honorable, legitimate business. But if permanent prosperity of the greater producing industry demands this, it is better so. That there is not sufficient business ability available to handle our fruit solely in the interest of growers, I do not admit for a moment. It is the same problem that the great mill owners faced forty years ago. The jobbers of clothes and cutlery were as sure as they were as absolutely necessary to the manufacturers of these goods as the commission and other middle men are now that oranges cannot profitably reach the consumer without their help. That the change will be made without friction and mistake no one expects. That it will be made, in my opinion, is inevitable.

We have here, then, five principal factors upon which to base a healthy growth, a new prosperity, an assured permanency of our citrus industry. Are they sufficient for the purpose? Have we good reason to believe: First, that economical production in a much larger degree may be secured?

Second, that the average quality of our fruit may be materially improved?

Third, that the loss by preventable decay may be greatly reduced?

Fourth, that cost of transportation may be materially lessened?

Fifth, that our marketing may gradually be done more economically?

It is reasonable to believe that by these measures our rapidly increasing product may be profitably placed on the market at so reduced a price as to insure its being promptly taken because of immensely increased consumption? If yes, then the query assigned to me is answered. We may confidently continue planting orange trees—under judicious restrictions.

Judicious Restrictions.—On these restrictions I need not dwell. The modern successful orchard will be built or selected by the man who knows what he wants and how to make or find it. The location will be carefully chosen, the soil and trees intelligently selected. The treatment from the first will follow scientific, practically tested methods. As a rule, the manager will be a trained orchardist.

The continued planting of oranges in California, if successful, will follow the same course that determines the increase of successful mercantile and manufacturing establishments. The manufacturer, considering the propriety of enlarging his business, does not inquire so much if there is a dearth of his class of goods in the market, but whether he can make a better quality or furnish at a lower rate than his competitors are doing. If he can, he will succeed, and the consuming public will be a real gainer. The thoroughly equipped orchardist is not going to refrain from planting because he knows the improved quality, with improved methods, that will net him a good profit, will also oblige his neighbors to sell at a continuous loss. The second rate producer must and many of them will hurry into the higher class. But our former easy profits worked harm as well as good. This new era of orange growing finds many an orchard so badly located, many illy treated so long that the sooner they go out of commission the better for all concerned.

What Variety.—Thus far, I believe, I have treated of facts that are demonstrable. When you ask what variety of orange is to return best results in the future, I can only give opinion. It may be of little value, though I believe it based on sound premises.

I believe our grand California Navel, to which our industry owes its prosperity and prestige, is to continue king of fruits for many years. We have abused it shamefully, but in spite of this it has served us splendidly. We hear sometimes of the deterioration of the Navel. Why, bless you! had it not been for its staunch staying qualities it would have deteriorated beyond the marketable stage long ago. Tell me, how many of our orchards have been planted from buds taken only from trees bearing best strains of fruit? Don't look around to find some nurseryman to put the blame upon. We growers have asked for Navels and we have received Navels. We have asked for thrifty trees and have received a splendid growing stock. Beyond that we have not asked. Our young trees, so far as our care has gone as a rule, have as likely come from the vigorous growing, coarse-fruited tree, as from the fine-flavored, solid meated fruit bearer. More likely because the former is more likely to produce the vigorous young tree which we have demanded.

Fruit Breeding.—The time is near when we will have pedigreed oranges as well as pedigreed live stock. The breeding of corn with a few individuals excepted, was unknown until a few years ago. Individuals believed in it. Science demonstrated it and proved its actual value. And in five years it added many millions to the annual value of the crop because growers practiced it. Fruit breeding will be of slower growth, because of the longer time required for demonstrating its results. But from that very fact it is of tremendously greater importance. The mistake of planting a poor strain of corn may be corrected the next year. The mischief from using the bud from a bad strain of orange continues for a life time. I think there is more to be expected from improving the Navel by selection than from possible new varieties. While it is most probable that Florida is to supply the early orange market, scientific breeding may give us both early and late ripening fixed strains retaining its favorable characteristics, lengthening its market season by some months.

The Valencia stands next to the Navel, because of its seasonable quality, rather than for real merit. I believe some of its most undesirable qualities will be bred out and its better improved.

Where Plant?—Where the best orange soil and most favorable climatic conditions, as shown by actual practice tests, are found, provided always that plenty of permanent water is absolutely in sight at reasonable cost. And nowhere else.

The time of need for experimenting on these essentials is passed.

I have detained you quite too long, but I want to add this word: Possibly I take this matter too severely, but I feel certain that there has been no time in its history, when intelligent, persistent, unselfish work on the part of influential growers could have so much influence on the future of the citrus industry in California as to-day. Individual enterprise we have and will have, and individual prosperity. What we most need just now, it seems to me, is a united, systematic, unselfish effort to place the industry, as a whole, on a permanently prosperous basis that will make it be to the future of our loved southern California what it has been in her past development.

THE DAIRY.

The Farmer's Cow.

To the Editor:—Having given up the paper I read to the Breeders' Association at Sacramento, I give in substance, as you request, what is practically the same thing.

The farmer's cow is the one that will convert the produce of the farm into milk and beef in the most economical way, and the breed of cattle that produces the largest proportion of cows suitable for that purpose is the milking Shorthorn.

I have said milk and beef, putting milk first, as being of the first importance, for without it, and plenty of it, we cannot rear our calves in good shape and have a surplus for the production of butter and cheese.

Hints on Beginning.—I do not advise any young man who has not been brought up to a knowledge of breeding and handling pure bred cattle, to make a beginning with all pure-breds of whatever breed he may think suits his fancy, together with the situation, best, but I do advise sticking to one breed after his mind is made up as to which breed will best answer the purpose he has in view. As far as my observation goes I have reason to think that more harm has been done by promiscuous breeding, or by using bulls of different breeds, one after another, than by any other means that I know of, especially when in conjunction with that system of semi-starvation so commonly practiced. It takes good feeding, as well as good breeding, to make good cattle. The cows that have the longest line of big milking and broad-backed ancestors are the only ones to be depended on for the production of animals of equal quality and usefulness, therefore it behooves the beginner, and the old hand, too, for that matter, to make a careful selection of good cows, the very best he can afford to buy, even if he keeps fewer of them, than he thinks his farm ought to carry. The cows will do so much better if the land is not overstocked. They will give more milk per head and also make bigger, stronger and more vigorous animals.

The Increase—With a few well-selected cows and a good pure-bred bull of the same breed as the sire of the cows is known to have been, raising the calves year after year from the cows that prove themselves to be the "best doers," an expression that covers any and all useful qualities in an animal; then by persevering in the continuous use of good bulls of one and the same breed for a few generations, and some vigorous weeding out of the poorer class of animals, he will have built up a herd of cattle as good for all practical purposes as many herds of pure-breds are, especially if the former have been kept under more favorable circumstances, and better fed than the latter.

The Triple Alliance.—Don't forget that breed, feed and selection all go together in building up a herd of cattle for any useful purpose; none of the three can be left out

Personal Experience.—I may be allowed to give the outcome of my long experience in breeding milking Shorthorns. I started in 1867 by buying all the Shorthorn cattle that were exhibited at the California State Fair that year, including a 13-year-old cow with a big bull calf sucking her, and a yearling heifer, a granddaughter of the old cow, that afterwards gave as much as seven gallons of milk a day. These cattle were of an old family, descendants of imported "Pansy," by Blaize (76). The old cow I bought was bred in the State of New York, and got by an imported white bull, descended from one of the late Sir Charles Knightley's "fill pail sort," as they used to be called. Then her dam was by a bull out of the Whittaker-bred imported cow Adeliza, by Frederick (1060). This also was a family that bore a good reputation for giving large quantities of milk, as most of the descendants of the Whittaker stock do to this day. You will perceive that I can show a milking pedigree for the very beginning of my herd. My next purchase was made in 1871. It consisted of a small herd of six cows and heifers and one yearling bull, which I used until he was in his tenth year. These animals were practically of pure Bates blood, and I could have sold some of them to go to Kentucky during the time of the craze for Bates-bred cattle. Well, the Bates cattle have always had a good name for giving milk, to the truth of which I can bear witness through the practical results obtained from both the cattle I bought and their descendants, even up to the present time. Many of the cows when sold for beef, without any extra feeding for that purpose, and when fourteen, and sometimes up to seventeen, years old, weigh as much as 1500 pounds, live weight, while the production of butter in my herd has been at the rate of over 300 pounds per cow per annum for the last two years.

The Dual Purpose.—These are what are called dual-purpose cows, and I fully agree with a remark made by Prof. Carlyle, when in the show ring at Sacramento, that in the long run they are more profitable than the kind that do nothing more than raise a calf a year, and doubly profitable to those that barely have one calf in two years without enough milk to raise it on. Such, at any rate, cannot be called the farmer's cow.

Keep Up to the Standard.—I did not give so much of the history of my own herd in the paper I read at Sacramento, but my object is to show that I had good milkers to begin with, cows that gave from five to seven gallons of milk, and that I have many more of that kind at the present time. It is true that I have been breeding for a goodly number of years. I have also been selecting and keeping the best to breed from during all that time, so that I can now count, with a tolerable degree of certainty, on what a cow is likely to do in the dairy. When a man thinks his cattle are as good as he wants them and gets careless in his choice of either bull or cows, then look out. There is danger ahead. However good a man's cattle may be, the true breeder will always be trying to improve his herd, for there has always been and in all probability always will be, "room higher up." If a herd is not getting better it is bound to deteriorate. There is no such thing as a standstill in breeding. It is either upbuilding or on a downward course all the time. The downward course is the easier. Robt. Ashburner.

Lakeville, Sonoma county, Cal.

SHEEP AND WOOL.

Sheep Industry of the Pacific Coast.

Dr. James W. Withycombe, Director Oregon State Experimental Station, at the Stock Breeders' Convention in Sacramento.

The history of sheep breeding is contemporaneous with the history of the origin of man. The lamb through all the ages has been regarded as the symbol of purity. In many respects sheep husbandry is conducted along the same general lines to-day as it was many years ago. Nomadic flocks roamed over vast stretches of country then as they often do now. This system of sheep husbandry, however, on this continent is rapidly diminishing, as with irrigation and the general settling up of our plains farm conditions are more strongly in evidence.

The first domestic sheep introduced into this State were from the Spanish colonists' flocks of Mexico, which was early in the last century. These were a very inferior type of sheep, simply degenerate specimens of their original Spanish ancestry.

Past and Present.—California, like other Western States, was fortunate in having public spirited men at an early period of her history, who by their generous impulses laid the foundation for the prosperity of her people. Among the galaxy of your public spirited men whose influence for good has been felt in the sheep industry of this State, are the names of McConnell, Flint, Patterson, Blaco, Severance, Peet, Woolsey, Glide, Bullard and many others of more or less prominence.

The mutton and wool growing industry on the Pacific coast is in the transitory stage at present. Range systems of sheep husbandry are steadily yielding to farm methods. Wool is no longer the primary object of the shepherd, for the carcass is paramount in value to the fleece. In fact, on our higher priced land wool is quite subsidiary to mutton. There is a steadily increasing consumption of mutton by our people, in fact the increase of our flocks is not keeping pace with the growth of our population. Growers should not overlook the fact that this growing

consumption of mutton will also develop a closer discrimination as to the quality of the product. The consumer will no longer accept from the purveyor of meats simply mutton, but will purchase intelligently as to quality. Hence the time is near at hand when quality in all of our meat products will command a premium. There will be little demand for the coarse or excessively fat mutton. The compact, moderately small boned, meaty type will be in demand. This will not be confined to any special breed, for it is generally recognized by the growers of the various breeds that the blocky type is preferable to the large, angular built individual of even the same breed. There is a general corelationship between blockiness and muscular development, also between muscular attainment and constitution. Thus the blocky type of sheep not only commands a premium at the block, but also possesses a constitution and general aptitude to take on flesh, which is highly desirable to the grower.

What Should Be Done.—Whenever practicable, pure breeds should be maintained on the farm, but when this is not expedient the grower should not fail to keep pure bred sires. Great financial disappointments annually occur to farmers from mating their flocks with impure sires. No matter how good the individual, without he is purely bred, he should not be permitted to become a progenitor of the flock. A good motto for the farmer to follow is, "Use nothing but pure bred sires."

Breed and environment should harmonize. For the range, or where large flocks are maintained, the Merino is pre-eminently the sheep. In fact, the Merino is the most cosmopolitan sheep we have, and while wool bearing is their strong feature, some families and flocks are assuming respectable mutton types.

Farm conditions for sheep husbandry will encourage the breeding of more or less pronounced types of mutton sheep. The sheep breeder, however, is not restricted as to latitude in selection, for among the many breeds one can be found suitable to almost any peculiarity of environment. In humid climates, or where vegetation is luxuriant, the ponderous long wool will revel in fatness. On drier land, where the herbage is less abundant, the hardy, sprightly Downs will succeed.

Range methods of sheep husbandry are well understood, hence the subject of this discussion will deal mainly with the problem of mutton growing on the average farm. There is at present a steady evolutionary progress in this direction. The development of a number of large cities and the steadily growing demand for good mutton give to the market a healthy tone and ensure to the farmer the perpetuity of the industry.

The Lamb Industry.—A strong feature of the industry is the almost phenomenal growth in the demand for lamb within a recent period. This demand has opened up a splendid opportunity for the farmer to make quick returns for his investment. There is an immense area of agricultural land in the State of California which is admirably suited to the production of the market lamb. In the East and the Middle States expensive barns have to be provided, and feed that is more or less costly has to be fed, while in this State your excellent climate precludes the necessity of this expense. Ewes could lamb in the open field and their sustenance largely obtained from properly provided forage crops. Take for example the non-irrigable portions of your great Sacramento valley. Forage plants can certainly be found that will grow here during the winter and early spring months, with the result that hundreds of sheep and lambs could be maintained in the open field during this season in suitable condition for the block. There is apparently no reason why the farmers of this valley cannot ship direct from the field train loads of ripe lambs to Eastern markets. This not only means a handsome revenue to the farmer, but this system of farming also insures to him the preservation of the potentiality of his land, which of itself is no small factor in the agricultural future of your State. A 50-pound lamb at Easter will sell in any Eastern market for 10 cents per pound, while a 75-pound lamb will often sell for 7½ cents per pound later in the season. There is no branch of farming where intelligently planned methods are more expedient to success than in sheep husbandry. It demands good judgment in both the selection and the handling of the flock. If the farmer breeds his flock he must exercise care in the choosing of his sires, or if he purchases his ewes these should be wisely selected.

How to Grow Lamb.—There are two general methods followed for the production of the market lamb—one, where the farmer constantly maintains a flock, but markets a certain proportion of his lamb crop each spring; the other, where the farmer purchases his ewes early in the fall and breeds these so that the lambs will come in January and February. If the ewes are well kept a goodly proportion of the lambs will be ready for market by Easter, and the balance will be marketable as early afterwards as practicable. The ewes will be kept on good feed and marketed for mutton just as quickly as they are in condition. In this way they are usually disposed of when mutton commands a good price.

The margin of profit in this system is often very good. An average crop of range ewes can be purchased in the fall for about $2 each. The lamb from such a ewe, sired by a blocky, heavy fleshed Down ram will easily sell for $5 when it attains a properly fattened weight of fifty pounds. The ewe when fat in the spring, with her fleece, would sell for from $5 to $6, thus making a gross profit on the lamb and ewe of from $6 to $9.

Perhaps the most feasible way to transport these lambs to Eastern markets will be in the dressed form by means of refrigerator cars. As the market lamb industry develops, centrally located abattoirs will be equipped for handling this business.

It is doubtful if the Pacific States can compete with the corn producing States in the winter fattening of lambs. These lambs are shipped by the thousands from the Western ranges in the fall to the feed yards of the corn growing States, oftentimes at nominal cost to the feeder, and are finished on corn and alfalfa.

Importance of the Sheep Industry.—The trend of the sheep industry on the Pacific coast is for more mutton of better quality. While the sheep with golden fleece will continue to yield a handsome revenue on low priced land, nevertheless wool alone will not yield a satisfactory revenue to the farmer with higher priced holdings. As an agricultural fact, the old Spanish proverb, "The sheep's hoof is golden," is as correct now as it was on the day of its utterance. Sheep are invaluable for maintaining the fertility of lands devoted to the growing of cereals. By growing forage crops, especially of the leguminous type, and pasturing them with sheep, enriches the land for these crops. It not only enriches the land, but it also improves the texture of the soil, which enables it to retain its moisture during periods of severe drought. This is a factor of no small moment in semi-arid agricultural sections.

With our 16,000,000 of sheep on the Pacific coast the industry seems to have reached mammoth proportions, yet it is conservative to estimate a much larger revenue from our flocks when methods of husbandry shall conform more closely to present market demands.

There is certainly an inviting field for sheep husbandry on the grain farms of this State. The foundation of the industry will rest on the capacity of the soil to produce forage crops for the flocks.

A co-operative effort between your Experiment Station and the farmers should be undertaken to determine the value of certain forage crops under varying conditions of soil and climate. Alfalfa can be grown on much of your wheat lands without irrigation, and it is exceedingly probable that it has a much wider range of growth than at present is accredited to it. There are other excellent forage plants for sheep which are worthy of a trial, such as vetch, rape, etc. As to the value of these and many other forage plants, direct experimentation will alone determine.

Let us hope that wool and mutton production, which promises so much for agricultural interests, shall receive the splendid thought and forceful recognition so characteristic of your people in other avenues of industry.

FRUIT MARKETING.

The Fruit Trade With Foreign Countries.

From the Crop Reporter of the United States Department of Agriculture for September.

The United States, although a heavy importer of exotic fruit, such as bananas, citrus fruit, currants, grapes, figs, dates, pineapples, and other fruits, has within recent years become an exporter of home-grown fruit, apples, prunes, apricots, etc., on a scale of almost equal importance. The fruit trade with foreign countries would, therefore, now amount practically to an exchange of commodities, an interchange of the different varieties, excepting that the nations to which we sell, on the one hand, and from which we buy, on the other, are not identical. Up to the beginning of the present century, it may be noted, the annual exports of fruit from the United States seldom amounted in value to one-half so much as the imports, but since that time they have increased steadily, and in the year ended June 30, 1904, exports of these products, for the first time in the history of the trade, actually exceeded the imports, the value of the former at ports of export having been $20,348,299, while that of the latter at foreign ports whence imported was $18,964,930. The exports of 1903-04 were, however, exceptional, owing to a shortage in the apple crop of some countries of northern Europe, and to a partial failure of the prune crop in sections of southern Europe. The probability is that there will not be a repetition of these heavy exports, especially of apples and prunes during the present year.

The fruits imported into the United States in large quantities are almost exclusively from tropical America, from southern Europe, and from Turkey-in-Asia. As estimated by value, over one-third of the imports consists of bananas; these are derived chiefly from Central America, Cuba, and the British West Indies; they are imported in quantities ranging from 25,000,000 to 30,000,000 bunches annually, and their cost, laid down at ports of the producing countries, ranges from $7,000,000 to $8,500,000 a year. To these may be added annually about $25,000 worth of plantains, a fruit closely resembling the banana and used for cooking purposes in some of the southern States. Next in importance to bananas in the import fruit trade are lemons, for which upwards of $3,000,000 are expended abroad annually, Italy (Sicily) being the almost exclusive source of supply. These two products, bananas and lemons, regularly constitute in value over one-half the total annual imports of fruit.

The remaining imports embrace a great variety of fruit. Probably the most important, as measured by the cash standard, are the small raisins, or dried grapes, imported principally from Greece under the name of currants, or Zante currants; about $1,000,000 worth of this fruit is consumed annually in the United States. There is also an imported trade of almost equal value in fresh grapes, of which the Almerian district in Spain is the chief source of supply. Olives, green or prepared, are imported in quantities amounting to about 2,000,000 gallons a year, and represent an expenditure abroad of about $750,000 annually. Imports of oranges have been undergoing a steady decline for the past few years under the influence of a heavy increase in domestic production; the total imports of this fruit for the fiscal year, 1903-04, amounted in value to only about $500,000, and this was more than counterbalanced by the exports of domestic oranges, the value of which was upwards of $700,000.

The only other fruits imported in quantities whose value exceeds or approaches the $500,000 mark are figs, dates, raisins, and pineapples. For figs and dates Turkey-in-Asia is the principal source of supply. From 10,000,000 to 15,000,000 pounds of figs and about 20,000,000 pounds of dates are imported each year, the annual value of the former being from about $500,000 to $700,000, and of the latter $350,000 to $450,000. Raisins twenty years ago were imported into the United States in quantities amounting in value to upwards of $3,000,000 annually. But for several years past the cultivation of this fruit in California, notably in the vicinity of Fresno, has been conducted with such success that practically the entire demand of the United States is now supplied from that source. Imports, it is true, are still made to the extent of from $400,000 to $500,000 worth annually; a growing export trade in domestic raisins, however, coupled with the re-exports, practically balances the account. Pineapples are imported from tropical America in considerable quantities; the annual imports amount in value from about $500,000 to $600,000. Other fruit in great variety are imported, but only in comparatively small quantities.

Below will be found a statement showing in detail the fruits imported for consumption in the United States during the fiscal years ending July 30, 1902 and 1903:

FRUITS IMPORTED FOR CONSUMPTION IN THE UNITED STATES.

Fruits.	1903.		1902.	
	Quantities.	Value.	Quantities.	Value.
Bananas (bunches)	29,711,301	$ 8,534,763	25,342,317	$ 7,305,482
Plantains		25,550		28,022
Lemons (pounds)	152,775,867	3,087,244	162,962,091	3,318,909
Currants (pounds)	35,562,520	813,228	32,668,033	1,180,156
Grapes		956 822		789,996
Olives, green or prepared (galluns)	2,131,091	785,750	1,719,825	739,410
Oranges (pounds)	57,046,866	822,878	53,031,356	786,950
Figs (pounds)	14,670,000	696,744	11,176,250	500,185
Dates (pounds)	20,700,000	464,487	19,216,025	341,037
Raisins (pounds)	5,965,815	433.004	5,635,001	360,396
Pineapples		634,945		549,618
Grape Fruit (pounds)	1,972,336	44,467	2,803,284	53,170
Limes (pounds)	3,402,582	33,089	3,463,278	36,037
Plums and Prunes (pounds)	673,516	63,059	523,438	44,056
Comfits, Sweetmeats, and Fruits Preserved		806,843		600,582
All Other Fruits		302,557		476,408
Totals		$18,505,439		$17,110,414

Figures upon the quantities of imported fruit that went into consumption in the year ended June 30, 1904, have not been issued. A statement of the total imports of fruit, however, is available, and this—although it differs from statements of imports for consumption in that it is given in less detail and includes all fruits imported, in distinction from those actually delivered for domestic consumption from custom houses and warehouses—is in a general way fairly comparable with the figures of imports for consumption above given. The statement is as follows:

TOTAL IMPORTS OF FRUIT INTO THE UNITED STATES, YEAR ENDED JUNE 30, 1904.

Fruits.	Quantities.	Value.
Bananas		$ 7,709,843
Lemons (pounds)	171,923,221	3,659,598
Currants (pounds)	38,347,619	997,430
Oranges (pounds)	35,893,260	525,468
Figs (pounds)	13,178,061	660,360
Dates (pounds)	21,058,164	463,459
Raisins (pounds)	1,867,617	355,542
Plums and Prunes (pounds)	494,105	46,976
Prepared and Preserved		1,796,209
All Other		2,750,045
Total		$18,964,930

Agricultural Review.

Alameda.

THE GRAPE CROP.—Livermore Herald: The recent hot weather has seriously injured the grape crop, and it is conservatively estimated that the falling off will be fully 25%, based on last year's figures. The injury is more perceptible in vineyards grown on the gravel soil than in the heavier clay lands. In other sections of the valley where there is more moisture in the soil, the grapes are in better condition and the foliage is heavier, protecting them in a measure against the intense heat, although there has been considerable damage even in these districts. Grapes that were ripening when the hot spell commenced are showing a very high percentage of sugar, 27% being reported in some cases; but with the green grapes that were forced to ripening by hot weather, the percentage may not be up to normal. This season's crop is bringing from $14 to $16 for black grapes and about $17.50 for white grapes; but where the growers are willing to sign a contract for three or five years, the dealers are offering $16 flat for black grapes and a proportionate amount for the white varieties.

Butte.

PEAR TREE MAKES A RECORD.—Gridley Herald: Thresher Bros., who have a fine ranch on the Feather river, report that on Thursday they picked from a pear tree of the Lawrence variety, on their place, 1600 pounds of fruit. The tree is about thirty-four years old and stands in among others of different varieties. The fruit is to be dried, and, as it sells for 7c per pound and produces one pound of dried to five or six pounds of green, it can be easily figured that the product from this tree will be worth something like $16 to $18. The fruit was of good quality.

NEW RECORD FOR DIPPING PRUNES.—Prune dipping is now going on at the Hutchins orchard. Monday a record was established by running through the dipper and putting on the trays 1850 boxes of prunes. The boxes hold about forty pounds of prunes each, and the weight of the day's run amounted to 74,000 pounds, or thirty-seven tons. The crop has been purchased by the Griffin & Skelley Co. The entire crop of dried prunes on the Hutchins place is estimated at about 175 tons, being some twenty-five tons less than last year.

Fresno.

LARGE BUNCH OF GRAPES.—Reedley Exponent: John Rankine, superintendent of the Wahtoke vineyard, shipped to San Francisco last week a 12-pound bunch of Thompson seedless grapes. This bunch was grown on a vine planted three years ago on the Wahtoke vineyard, a few miles north of Reedley.

Inyo.

HONEY.—Independent: The entire Inyo crop of comb honey has been purchased by the Gregory Fruit Co. Inyo county lies along the eastern base of the Sierra Nevadas, where there are large tracts of white sage and other shrubs bearing flowers that produce choice honey. This is said to be the finest lot of comb honey that will reach the market this season. It amounts to about 100 tons, and the buyers claim that they paid 10c a pound net to the grower. The dry season this year in the honey districts is responsible for the securing of such a satisfactory price.

Kings.

SWEET WINE GRAPES. — Lemoore Leader: The Lemoore winery has opened up for the season's run. We understand that $7 per ton is the price being offered by the various wineries for grapes, except where contracts previously made are still in force.

Los Angeles.

MORE LARGE PEARS.—Antelope Valley Gazette: Mr. Martin of Little Rock brought in some pears, six of them weighing 6¼ pounds. These were taken without special selecting from some that Mr. Martin was shipping.

Mendocino.

HOPS SOLD.—Ukiah Dispatch-Democrat, Sept. 16: Nearly all of the hop growers sold their hops this week for 25 cents. There are only about 1500 bales yet unsold. Thoso that have not sold are Sanfords, Bartletts, Redemeyer, Howell, Dutton, M. L. Gibson and Ernest Clark.

Mono.

SHEARING SHEEP.—Bridgeport special to Sacramento Bee: Large bands of sheep are being sheared in this county this fall, as the sheepowners have made up their minds to keep their sheep in this section as long as possible on account of the scarcity of feed across the range. The rangers and soldiers are constantly driving bands of sheep out of the reserve.

Monterey.

HOW HE MANAGES IT.—Salinas Index: F. A. Brindeiro raises alfalfa and makes a success of dairying. He says he has never lost any cows by allowing them to graze on green alfalfa. He lets them eat some dry feod and then, after the dew has disappeared in the morning, he turns the cows into the alfalfa pastures. After they have eaten their fill, he takes them off the alfalfa and keeps them from water for an hour or two and then lets them drink all they want. Mr. Brindeiro is now selling his butter at 26½c a pound.

BAKED APPLES.—A Prunedale news note says: The heat has been terrible here the past week. The Prunedale apple crop is ruined. The apples on the trees are all cooked, as if they had been in an oven.

Napa.

GRAPES DAMAGED.—Calistogian: As a result of the awful heat, the grape crop has been damaged to a great extent. Conservative estimates indicate that the loss will be fully 25%. Even the second crop grapes are badly withered. The estimates are made in vineyards where the soil is heavy and the foliage dense. On lighter soil the damage is undoubtedly greater.

San Bernardino.

GRAIN HARVEST COMPLETED.—Chino Valley Champion, Sept. 16: The Chino Land & Water Co. on Wednesday completed the harvest of its grain crop, and the big combined harvester and thresher was brought in and given a rest for the first time since it started on June 8. Figures on the crop cut and threshed by the machines are not now available, but approximately 4000 acres were harvested. Several hundred acres of Egyptian corn will yet be cut by it.

San Diego.

MONEY IN WATERMELONS.—Imperial Press: The Press is in receipt of a fine Chilian watermelon from the patch of J. J. Post at Heber. Mr. Post states that he planted a half acre the first of April, and up to the present date has sold over $50 worth of melons from the patch, and expects to realize about $10 more, besides feeding the small ones to pigs. These melons were planted more as an experiment and for family use. The melons will be out of the way in time to plant the winter crop of barley, for this is a country where things grow the year round.

Santa Barbara.

MUSTARD.—Lompoc Record: The high price of mustard is a result of the farmers tiring of growing it at prices heretofore prevailing. A thousand acres of mustard annually would probably keep prices steady and fair; but when from 3000 to 4000 acres are sown the product exceeds the demand and prices fall. The chances are that there will be a larger acreage next year and prices be cut in two.

LARGE BEET.—The latest in the way of production is a 25-pound yellow Tankard beet from the Rolla home. Irrigation did it.

POTATOES YIELDING WELL. — The largest acreage of potatoes grown by any single firm or party is the 120 acres planted by the Schuyler brothers that they estimate will average seventy-five bags of merchantable potatoes per acre. There are many acres on irrigated lands that will yield upwards of 100 bags, and what is better the price promises to reach the dollar mark. There will be quite a crop of potatoes harvested, but nothing like as large as the bean acreage.

Santa Clara.

PRUNES, APRICOTS AND PEACHES.—San Jose Mercury: The prune yield of Santa Clara county will be about the same quantity as last season. The sizes run about fifteen points smaller. The prices, so far as present appearances go, are from 1 cent to 1½ cent less than last year. Up to date the sales to the trade have been about 1000 cars in this valley. There does not seem to be much pushing of sales to consumers in the East. The apricots and peaches are about all out of first hands. Of the former it is estimated that there are not more than 150 cars in the valley and of the latter not more than fifty cars. The size and quality of these fruits are about the same as last year. The quantity of apricots will be a little greater, and of peaches a little less than last year.

PRIZE CORN.—Gilroy Gazette: Alex. Watson has a patch of corn growing on his San Ysidro ranch which has any number of stalks which are 14 feet high, and one of them measures exactly 15 feet. The first ear on the stalk is 8 feet from the ground and can only be reached with the aid of a step-ladder. The seed from which this giant corn grew was obtained from the Departmont of Agriculture at Washington. The name of the variety is not known. The corn grew rapidly, and after it reached its extreme height Mr. Watson was apprehensive that the substance had all gone into the stalk, and that the ears would not fill out, but they did.

Santa Cruz.

LIGHT BEAN YIELD. — Watsonville Pajaronian: The bean crop of Pajaro valley received a serious set-back on account of the late hot weather and the loss to growers will range from 15% to 50%. Some of the beans, just ripening, were virtually cooked. As the crop was very promising in most fields and about ready to harvest the hot wave came at a most inopportune time.

Shasta.

ANDERSON PEARS.—Valley News: The Bartlett pear crop averaged better than last season and brought good money. Twenty-four cars sold in the East averaged $1026 a car. Two carloads sent to Hunt & Co., at Haywards, brought $50 a ton.

Sonoma.

DRIED FRUITS.—Santa Rosa Press-Democrat: While this has been an exceptionally poor year for prunes, in quantity as well as in price, the average of dried fruits handled has been maintained by drying pears. For the first time in sevon years there have been pears in sufficient quantity to warrant drying, and the Merritt dryers have handled a large quantity. The average price for pears to the grower was $10 per ton, orchard run. While the cannery paid $25, it demanded carefully selected fruit. Prunes have never been as low as they are this season. Prices aro now a half less than last year, with practically no demand for the fruit. With pears there is a good demand and prices are firm at 6c per pound. Some peaches and a very few plums have been dried, but both are very scarce this season.

WINE GRAPES.—Reasoning that what was good for the association was bad for the grower, but few people in this section signed the five-year contract. They concluded to wait until the market opened and take chances on something better turning up. But they reckoned without the association. Waiting is just in its line. Tho growers are to be forced by thug methods to signed that contract or be throttled. When the market opened last week, the announcement came that grapes were worth $13 per ton and that last year's three-payment plan would be enforeed, viz., one-third cash on delivery; one-third in February, 1905, and one-third in June, 1905, and the growers must accept this or sign the five-year contract. It is too plainly a club to beat the grape men into signing away their crop, for if grapes are worth $15 on five-year contract they are certainly worth as much in the open market. The plan worked well, many contracts having been signed. The small wineries are the growers' only hope, and it is unfortunate that their capacity is limited. To them the growers should give their heartiest support. Encourage their growth, both in number and capacity, and grant them all the concessions possible.

Sutter.

BEANS AND BUCKWHEAT.—Independent: Some of the bean growers in the vicinity of Cranmore and Kirksvillo are now pulling the bean vines and preparing to harvest their bean crops. It is stated that this crop will be rather light in that neighborhood. Buckwheat is coming on nicely and from present indications there will be a bountiful yield of this brown cereal.

Tehama.

PRIZE PEACH PICKER. — Red Bluff News: Henleyville claims to have the champion fruit picker of the season, and Miss Edith Scott, daughter of Mr. and Mrs. Peter Scott, is the young lady who is believed to be worthy of the gold medal for having picked the largest amount of fruit in one working day. In nine hours and twenty minutes she picked fifty boxes of peaches, each box weighing fifty pounds, and the work was well done. This phenomenal picking was performed on the M. D. Wilson place, near Henleyville. The young lady is only 14 years old and is attending the district school, where she is an apt pupil.

JAPANESE FRUIT PICKERS NOT SATISFACTORY.—Vina special to Sacramento Bee: Grape picking on the great Stanford ranch is progressing rapidly and the crop this year is unusually large. The Japanese crews of pickers are not proving as satisfactory as desired and a number of white men will be put to work in their stead. It is said in the vineyard town that the Orientals aro in receipt of wages whether they work or not and that they are sent out by the Mikado's empire to obtain what information they can in regard to the American way of doing things. About one-half of the workers, it is reported, spend most of their time in the bunkhouses, reading the Japanese papers on the progress of the war between their fatherland and Russia, and only work in the vineyards when the spirit moves them.

Tulare.

ALFALFA SEED.—Times: W. S. Howe began threshing alfalfa seed on the 3d inst., his first work being in the district several miles east of Tulare, where he says the yield of seed is light. On the Ben Henry ranch, 4 miles west of Visalia, he has thirty-five or forty acres to thresh, and he says the crop will probably yield five tons of excellent alfalfa seed. It requires ten men and sixteen horses to run the threshing outfit.

ANTHRAX.—Anthrax has made its appearance among the cattle on the ranch of J. N. Patterson, 3 miles west of Dinuba. Six head of cattle have already died from the effects of the disease. Dr. Hunter, county veterinarian, held an autopsy on one of the animals and pronounced the disease anthrax. He sent a piece of liver and kidney from one of the dead animals to Dr. Twining, the bacteriologist at Fresno, and he confirmed Dr. Hunter's diagnosis. All of the dead cattle have been burned and those remaining alive have been vaccinated.

TULARE COUNTY PLUMS IN LONDON.—Orosi Offer: A few weeks since mention was made of a green fruit shipment from Orosi to London, England. In the shipment there were 118 boxes of Kelsey Japan plums, and they were sold at auction in Floral hall, London, for the account of N. W. Miller of Orosi. The 118 boxes brought $262.62. These boxes were all packed by the same packers, and each contained 126 plums, weighing twenty pounds net within a fraction, which fact was so marked on each box. The boxes had double bottoms and tops with ½ inch air space between. The cost of boxes, paper and packing was $29.50; freight and icing, $90.50; insurance, $1.18; storage and cartage, $7.08; commission, $18.38. Total, $146.74. Cost of picking fruit, $6; net returns to the grower, $109.88, or 4.65 cents per pound.

Ventura.

SOME POTATOES. — Oxnard Courier: Major Carr, the El Rio statesman, is reaching out for the belt as the champion potato raiser of the valley. He recently harvested 500 sacks from two acres of ground.

BEAN THRESHING. — News: The immense Thompson rancho thresher, with James Sweat, the well-known bean expert, as manager, has long attracted attention. It is the largest bean thresher in the world, and one of the largest threshers of any kind in this State. The machine is run by steam, of course, but carries a complete plant for generating electric light. The lights are used by the night shifts, which work on comparatively dry nights. With its usual cook tent and many teams and wagons, the outfit resembles a little community moving from place to place in the immense bean fields. The bean crop this season is comparatively small. Estimates vary from 250,000 to 300,000 sacks, and this is small indeed, for in a good year the yield should be at least 520,000 sacks. Owing to the drought of last year, the Ventura ranchers in many sections irrigated their crops. The thresher will first attack the "straight" beans, those not irrigated, and may go off the 1400-acre Thompson rancho for a short time in the middle of the season while waiting for the irrigated beans to come in.

Yuba.

HOP PRICES.—Wheatland Four Corners: Hops are hopping about 25 to 28 cents, the growers asking the top price and the dealers offering a little better than the lowest. Horst has been busy the past week shipping new hops, having forwarded about 1000 bales. Durst Brothers have shipped about 500 bales to England, and Drescher has shipped out a carload. Bailing is going on rapidly, and it is probable that when shipping commences hops will go out by the train load. The hops are sampling fine.

Horse Owners! Use
GOMBAULT'S
Caustic Balsam

A Safe, Speedy, and Positive Cure
The safest, Best BLISTER ever used. Takes the place of all liniaments for mild or severe action. Removes all Bunches or Blemishes from Horses and Cattle. SUPERSEDES ALL CAUTERY OR FIRING. *Impossible to produce scar or blemish.* Every bottle sold is warranted to give satisfaction. Price $1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars.
THE LAWRENCE-WILLIAMS CO., Cleveland, O.

The Home Circle.

The Sheaf of Richest Grain.

He saw the ripe wheat waiting,
All golden in the sun,
And strong and stalwart reapers
Went by him, one by one.
"Oh, could I reap in harvest!"
His heart made bitter cry;
"I can do nothing, nothing,
So weak, alas! am I."

At eve, a fainting traveler
Sank down beside his door—
A cup of cool, sweet water
To quench his thirst he bore,
And when, refreshed and strengthened,
The traveler went his way,
Upon the poor man's threshold
A golden wheat sheaf lay.

When came the Lord of harvest,
He cried: "O Master kind!
One sheaf have I to offer,
And that I did not bind;
I gave a cup of water
To one athirst, and he
Left at my door in going
The sheaf I offer thee."

Then said the Lord of harvest,
"Well pleased with this am I;
One of my angels left it
With thee as he passed by.
Thou mayest not join the reapers
Upon the harvest plain,
But whoso helps a brother
Binds sheaves of richest grain."

—Eben E. Rexford.

Swinging on the Gate.

I can see a picture painted. I can smell
the drying hay
Where the busy mowers rattle through
the lazy summer's day.
I can see the hungry plowboy wading
through the billowed corn,
With expectant ear to windward, list'ning
to the dinner horn,
While unconscious of necessity, the future
or of fate,
I make wondrous childish journeys as I
swing upon the gate.

Strange how back among the many recollections of the past
Memory will grope and wander till it brings to us at last
Some poor, foolish, fond remembrance, seeming hardly worth the while,
Yet somehow made wondrous potent, like a tender passing smile,
Fleeting, gone, and soon forgotten—yet remembered by and by
With a swelling of the bosom and a dimming of the eye.

Now my temples fast are graying and my eyes have sober grown
With the years of varied happiness and sorrow I have known;
Still I sometimes hear the echo, when the evening lights are low
And without my darkened casement ghostly breezes eerie blow,
Of the friendly, rusty rattle of the latchet as when late
In the hazy, lazy summer time we swung upon the gate.

—Lowell Otus Reese.

Sparkin's Little Deception.

It was quite by accident that Cyrus Sparkin happened to see the notice in the "Lost and Found" column. He was, in fact, just turning the paper when the address caught his eye. The address was 8296 Wistaria avenue, third flat. The reason that Sparkin's pulse beat a little faster was that he had recently called at 8296 Wistaria avenue and had there spent a half hour of mingled torment and ecstasy. Torment, because he imagined that Miss Chelby regarded his visit in the light of an infliction, and ecstasy because it was a privilege to be near Miss Chelby on any terms.

The advertisement said that a lady's purse, containing fifteen dollars in currency, had been dropped between Kelso and Ogle streets, on Drelincourt avenue, and appealed to the finder to return it and receive a suitable reward. The purse was described as seal leather.

"Well," exclaimed Sparkin, as he read the advertisement over for the fifth time to be sure he was not mistaken, "It's her purse, sure enough. Poor little girl! Now, that's what I call tough."

He turned it over in his mind again. He knew that Miss Chelby passed along Drelincourt avenue on her way home, because—well, because he had noticed that she did. He knew that she carried a seal-leather purse—rather worn and not bulky—because one morning he had happened to get on the same car with her, and when she dipped into the purse for her carfare before he had a chance to stop her, he also noticed that her gloves had been very neatly mended at the finger tips. First and last, Sparkin had noticed a good many things about Miss Chelby. He had had opportunities, for she was a stenographer in the office of which he was assistant manager.

For another thing, he knew that Miss Chelby's salary was fifteen dollars a week.

"Poor little girl!" he repeated. "I'll bet that's a mighty serious matter for her, with that invalid sister to support."

It worried Sparkin a great deal—so much so that he read at least four columns of the paper without having the slightest idea what he was reading. When he arrived at the office he intended to go to Miss Chelby and offer his sympathy for her loss, but as usual lost his courage at the sight of her, and it was not until the noon hour approached that he regained it sufficiently to stop at her desk.

"I see by the paper that you've been unlucky enough to lose some money, Miss Chelby," he said, awkwardly.

She looked up at him, with rather a cold expression, he thought, and then replied, "Yes, I dropped my purse."

"Oh, well," he said, consolingly, "perhaps some honest person has found it and will answer your advertisement."

"I'm afraid not," said Miss Chelby, and she sighed a little.

Sparkin was silent for a moment and then he said, in tones of profound conviction, "I feel certain that he will."

He was rather absent minded about his work that afternoon, and put in a good deal of time scribbling on a block of paper in a slow and painful manner, afterward tearing up what he had written into infinitesimally small pieces and scattering them into the waste-paper basket. The last page, however, he folded carefully and put in his breast pocket.

That evening a messenger boy rang at the third flat of 8296 Wistaria avenue and delivered a package addressed simply "Advertiser." Miss Chelby signed the book and then opened the package, disclosing a new seal-leather purse, almost identically like the one she had lost, and a note in a cramped handwriting:

Dere Marm—I seen yor ad and I felt my conshunts hirt me, because I found yor munny and I throwed away the pirs, sose no won wud find it out, and I spent the munny. So wen I seen yor ad mi conshunts maid me bi you a pirs like it and pay back the munny. I hope this will maik it all right.

Miss Chelby opened the "pirs." It contained three new five-dollar bills. She went in to the invalid sister with the news, and the two wept tears of joy. Their tears were not yet dried when there was another ring at the bell, and it was opened to an elderly woman of respectable appearance.

"Did you lose a purse with fifteen dollars in it on Drelincourt avenue?" asked the visitor.

Miss Chelby gasped. "Why, yes," she said. "But I—"

"My little boy found it and brought it home to me," said the woman, with a smile, holding out the old seal-leather purse. "I'd have brought it before, but I work out, and I didn't see the advertisement till noon anyway. The money's in it all right, my dear, and I don't want any reward. I know what it is to lose money myself. You can pay my carfare, though, if you like."

When this worthy soul had departed the sisters looked at each other in blank amazement.

"What can it mean?" exclaimed the invalid.

"Let me look at that letter again," said Miss Chelby.

The next morning the assistant manager rather avoided the stenographer, but she called to him:

"My purse was returned to me, Mr. Sparkin," she said sweetly. "I thought you would be glad to know it."

Sparkin colored and looked uneasily easy. "I am glad," he muttered. "You know I told you it probably would be. I—er—congratulate you, I'm sure."

"You don't ask if the money was all right," said Miss Chelby.

"To be sure, said the assistant manager, confusedly, "I didn't, did I? I—er—I forgot, you know. Was the money all right?"

"Yes, thank you," said Miss Chelby.

As soon as Sparkin had retired to his room Miss Chelby took a package from a drawer in her desk and addressed it. In due course this package was delivered at Sparkin's bachelor apartments, and when Sparkin opened it he found it contained a new sealskin purse and a note. The note was as follows:

"Yor conshunts ort to tell you it is rong to deseeve, or two tri too deseeve. Yo ar not a suxess as a frord, thow; soe yough mite az wel give up trying too be one. I think yew ment well, so I will forgiv yoo this wunce, but don't tri ennything lik this agen."

Sparkin gazed at the note in stupefaction.

"If that doesn't beat—well it beats anything!" he exclaimed, at last. "Now how do you suppose she found that out?"

* * * * * *

He learned not long after. And it may be remarked that the element of torment does not now enter into his visits to 8296 Wistaria avenue. —Chicago News.

Prevalence of Apoplexy.

Apoplexy occurs with greater frequency now than it did some years ago. According to the United States census returns, there were nearly 51 from apoplexy in every 1000 deaths in 1900, whereas in 1890 there were less than 38 in every 1000 deaths from all causes. This is doubtless due to a corresponding increase in arterial diseases, for apoplexy—at least the common form—is simply the rupture of a blood vessel in the brain, the paralysis and other symptoms being caused by destruction or compression of the brain substance by the effused blood.

The attack usually comes without warning, the sufferer being struck down in the midst of apparent health—hence the term "stroke of paralysis." Sometimes the attack is preceded for some days by unwonted inertia on the sufferer's part, with a disinclination to read or talk, and there may be more or less vertigo, with momentary lapses of consciousness. The attack may occur during sleep, or while the patient is sitting quietly, or it may appear to be brought on by a physical strain or some strong mental emotion.

There is almost always unconsciousness at first. The patient lies in a profound stupor, breathing noisily, with flapping of the lips and cheeks. Sometimes the attack is not so precipitate. Nausea and vomiting, with dizziness and mental depression, may precede the development of coma. Death may occur in the attack, or the patient may gradually recover, with more or less paralysis remaining. In cases of recovery, consciousness gradually returns after a longer or shorter interval. There is usually some fever for a week or two, and the paralysis, which may at first be almost universal, is found to be limited to one side of the body, or to certain groups of muscles. The amount and seat of the paralysis vary with the location and size of the blood clot. As this contracts and is partially absorbed the paralysis diminishes, and may, in very light cases, almost entirely disappear.

A person who has had a stroke should be placed in bed with the head a little raised, and cold cloths or an ice bag should be applied to the head. The drugs that are called for are those that reduce the pressure of the blood in the arteries and quiet the action of the heart.—Youth's Companion.

Keeping the House Cool.

The first thing in the morning open every door and window. Let the fresh morning air circulate through every part of the house. Even a little early sunshine will not be a bad thing in the rooms.

About eight or nine o'clock, or earlier than this if it is an exceedingly hot morning, close the windows and doors on the east and south sides of the house, where the sun shines. If the house has outside shutters these should be closed, the inside blinds drawn, and if there are awnings they should be lowered. This will keep out a great deal of heat.

In the forenoon while the east and south windows are closed the north and west doors and windows should be left wide open. This will furnish a circulation of air through the house, and keep the atmosphere of the rooms from becoming dead and heavy, as it does when all the windows and doors are closed.

In the afternoon when the sun approaches the west side of the house, then the windows and doors on that side should be closed the same as the east and south windows in the forenoon. By this time the sun has left the east and south windows and they can be opened, while the west side of the house is closed. The north windows and doors can be left open all day, as the sun will shine in from that side but very little.

In this way there is a free circulation of air in the house all day, while the heat of the sun is shut out. The house will be kept cool and the air will not have that clammy, unpleasant feeling that it has when all the windows and doors are kept closed. As a rule, the housewife closes all the windows and doors early in the morning, keeping the house darkened all dav long. It is true this will keep the rooms cool, but there is an unwholesomeness about such a house. Coming in from the outdoor air, no matter how hot it may be, a closed, darkened room, while it will be very cool in comparison to the outside atmosphere, yet the air in such a room will in contrast to the outside air be dead and stifling, nothing refreshing about it. It very nearly resembles the atmosphere of a cellar and is very unwholesome.

We have often heard women complain that they could not keep the house cool on account of the men folk, who always insisted on throwing wide open the windows and doors as soon as they came into the house. To them the house seems nice and cool, but to the man coming in from the free outdoor air, the still, closed air in the house seems stifling, even though it may be cool, and he is at once prompted to throw open the windows to get some fresh air.

No matter how hot the day the house should be so arranged that there is a free circulation of air. The best arrangement that we know of is to keep the sunny side of the house closed while the shady side is left wide open.

If it is a very hot day place a large chunk of ice in a pan in the middle of the room and in a short time the temperature will be perceptibly lowered. If the ice cannot be had try hanging wet towels about the room.—Medical Talk.

Anna was preparing to say her evening prayer. Her grandmother, sitting near, said she must ask God to make the weather warmer so grandma's rheumatism would get better. Anna ended her prayer that night with the following supplication: "And oh, God, please make it hot for grandma!"

Paterson Pete.—I dreamt last night dat I had a million dollars.

Stacked Oates.—Did yer enjoy it?

Paterson Pete.—Nit! I wuz sued for breach uv promise, operated on fer appendicitis an' mentioned for de Vice-Presidency 'fore I'd even got it counted.

A gentleman called on business at a friend's house in the country. Seeing the little son in the yard he asked him where his papa was. The little fellow replied:

"Why, papa's out in the pig pen; you can tell him, he's got a hat on."

Popular Errors.

A great many, perhaps the majority of otherwise well-informed people, believe that they see the same with both eyes—or, to put it more in accordance with the facts of the phenomena of vision, that the image formed on the retina of each eye is identically the same—presupposing, that is, that both eyes are in normal, healthy condition. That this is not the case one can easily convince himself by the following simple experiment: Cover one of the eyes with the hand or a bandage, and let the experimenter attempt to snuff out a candle suddenly placed within a few feet of him. He will almost invariably miss the flame, either overreaching or putting the fingers too far to the right or left of the flame. With both eyes normal and open the accommodation for distance and direction is instantaneous, says the Scientific American.

Dipping the pen into an ink-stand on the table before one is an easy matter, when he has the use of both eyes and specially if he, like the writer of this, has sat at the same table for many years, writing for several hours each day. Let this person be suddenly deprived of one eye, and he will find that until he grows accustomed to it, he will not touch the mouth of the ink-stand at first trial once in a dozen times, but, as in the case of the candle, will fall short, but a little later on he will habitually overreach the desired spot, and it takes long practice to be able to correctly place the hand. The reason for the apparent reversal of habit noted above, the change from under to overreaching, is very easily explained—the observer, bearing in mind the tendency to fall too short purposely lengthens his reach, and in so doing reaches too far. The writer hereof was several months in overcoming this difficulty, and even yet, after the lapse of six years experience, finds considerable difficulty in locating the exact distance and direction of small objects, say a pin, or a pen lying on the table before him.

Another fallacy under which the majority of persons labor is that the loss of one eye strengthens the vision of the other—an idea originating in the fact so often noted that the complete loss of one of the senses is frequently, if not always, compensated by an increment in the delicacy or acuteness of another—thus, when the sense of vision is lost, the sense of touch, or that of hearing, or of both, frequently becomes more acute, sometimes to a marvelous degree, if we may believe the many well-attested instances on record, and some of which, no doubt, every reader will recall.

So, too, generally, it is in the loss of a limb, especially of an arm; the remaining limb, the muscles of which, by having to do much more work, grow harder and stronger, as doubtless they would under the same amount of work were the other limb remaining intact.

With the organs of sight, or of hearing, where the duplication of the member serves certain definite purposes or ends, the loss of one weakens and, to a certain extent, incapacitates the remaining member. Thus, with the two eyes in normal working order we can estimate the exact position and approximate distance of any object looked at, but when only one eye is in use, as we have seen in the experiment with the candle, we cannot do so. The same phenomena occur in the loss of audition in one ear. The sound is heard by the remaining ear, but the hearer fails to be able to locate the direction whence the sound proceeds, nor can he ever entirely overcome the difficulty.

Tomato Catsup.

In answer to request, Mrs. George C. Huson of Corning, Cal., kindly sends the following recipe for tomato catsup:

One bushel tomatoes, ½ gallon vinegar, 1½ pint salt, 2 ounces cloves, ¼ pound allspice, 3 ounces cayenne pepper, 3 tablespoonfuls black pepper, 5 heads garlic or 3 large onions. Boil the tomatoes until soft; squeeze them through a fine wire sieve; add vinegar, spices, garlic or onions and boil about three hours, or until reduced one-half; bottle without straining. This is a most excellent recipe and has been in use in our family nearly fifty years. One-half the above quantity makes enough for a small family.

The Cooking of Fruit.

A paragraph which has been going the rounds rather extensively informs the housewife that a little soda (saleratus) added to stewed fruit when it is being cooked lessens the quantity of sugar required to sweeten it.

While this is true, it is equally the fact that the soda accomplishes this result by destroying the acidity of the fruit, and in the process the life and flavor are, to an extent, injured. A preserve to which soda has been added is rather flat and tasteless when compared with one which is made entirely of fruit, sweetened with sugar.

The wise and truly economical housewife will not destroy the flavor of a healthful and pleasing dish of stewed fruit in order to effect a saving so very, very small.

Fruit that is over acid, such as cranberries, red currants, gooseberries, etc., will call for less sugar in sweetening if they are prepared in the following manner: After washing the fruit, place it in an agate kettle and cover with clear, cold water. Set the kettle over the fire and bring the contents quickly to the boiling point; pour off the water and then set the kettle where the fruit will cook slowly in the usual way, adding only enough water to keep the fruit from burning. Add sugar sufficient to make the preserve palatable, and do not add the sugar until just before the fruit is removed from the fire, since less is required than when the sweetening is cooked with the fruit.

The juice or water that was poured off the fruit at first can be made very cold, sweetened with sugar and served as a drink. It may also be used in place of water or milk for the foundation of a pudding or sauce, a little sugar being added and the whole thickened with cornstarch or arrowroot. Apples or pears may be sliced and cooked in this fruit juice instead of using water in the usual way, and it can also be used in mincemeat, in fruit cakes or boiled puddings.

Fruit should never be placed on the front of the range and stewed like a vegetable. Its appearance is much more attractive if it is kept as entire as possible. Apples and pears should be cut into quarters or eighths, and laid in the saucepan carefully, a very little water or fruit juice added, and the cover kept on the saucepan all the time they are being cooked.—What to Eat.

Domestic Hints.

A Nice Entree.—Cook spaghetti in slightly salted water. Then allow it to drain through a fine colander till quite dry. Turn into a well-buttered baking dish, break an egg into it and mix well. Next fill the dish with milk and put it into the oven to bake till a custard-like consistency has been attained. Season to taste and use in place of rice, where variety is desired. It also makes a nice entree with stewed fish.

Potato Puffs.—Warm cold mashed potatoes for a second or two in the oven to overcome clamminess. Then beat up with a fork or egg-beater. Into this stir one or two eggs, using flour sparingly to "bind" if the mixture is found too moist. It must, however, be of such a consistency that it can be dropped from a spoon into "deep" boiling fat as a frying medium. Sprinkle with minced parsley and serve tomato ketchup.

Peach Charlotte.—This is one of those simple, yet pleasing, desserts with which the housewife likes to vary her menu. Ripe, juicy peaches are required, and it is a good way of utilizing those that are slightly specked, since one may cut away the undesirable parts in slicing. Strew the slices liberally with sugar and grated almonds, using either lemon or vanilla flavor, as preferred. Beat separately the yolks and whites of three eggs (to one quart of peaches). Sweeten yolks and spread over fruit, allowing it to "harden" in oven, while whites are being beaten to a merangue, then cover pudding with the same and bake to a light golden brown. Serve hot or cold.

Raspberry Ice.—Three tablespoonfuls of sugar, one cupful raspberries, one-third cupful of water, one teaspoonful of lemon juice. Sprinkle raspberries with sugar, cover and let stand one hour; then mash and squeeze through cheesecloth to express as much juice as possible. Add lemon juice and freeze. Strawberry ice is made in the same way as raspberry ice, the quantity of sugar depending upon the acidity of the fruit.

String Bean Compote.—New string beans make a good compote to serve as a relish with meat where a sweet taste is demanded. Green ones only are to be used, the cream or wax beans not being suitable. Boil until soft in slightly salted water, then drain, add brown sugar, a little race ginger and diluted maple syrup to the beans. Give them a "dusting" of corn starch and let them simmer until almost jelly-like in consistency. Serve hot or cold.

Spanish Pickle.—Slice very thin one gallon green tomatoes; let them remain in brine one night. Prepare a mixture of white mustard seed, one pint grated horseradish, one-third pint green peppers, one-third pint chopped onions, one tablespoonful ground black pepper, two tablespoonfuls cloves, two of mace; put in the jar a layer of this mixture, then a layer of tomatoes, and so on until it is filled. Pour on sufficient cider vinegar to cover the whole. To one quart of vinegar, add three-quarters of a pint of sugar; boil together and pour over the pickle. This quantity will fill a two-gallon jar.

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SAN FRANCISCO.



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PRICES:

12	inches	long,	$ 9.00	per	1000
14	"	"	10.00	"	"
16	"	"	11.50	"	"
18	"	"	12.50	"	"
24	"	"	15.00	"	"
30	"	"	17.50	"	"

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450 Santa Fe Avenue, Los Angeles, Cal.

The Markets.

San Francisco Produce Report.

SAN FRANCISCO, September 21, 1904.

CHICAGO WHEAT FUTURES.

Wheat futures in Chicago were as follows for the week named, price being for No. 2 Red per busbel:

	Dec.	May.
Wednesday	$1 16⅛@1 14	$1 18¼@1 16
Thursday	1 13⅜@1 16⅛	1 15⅜@1 17¾
Friday	1 15⅛@1 13	1 16¾@1 14⅝
Saturday	1 13 @1 09	1 14½@1 11
Monday	1 10½@1 07½	1 12½@1 09½
Tuesday	1 08⅝@1 09⅞	1 10⅝@1 12

CHICAGO CORN FUTURES.

Prices of futures on No. 2 corn per bushel in Chicago were as follows for the week:

	Dec.	May.
Wednesday	51⅛@52¼	53½@51⅞
Thursday	51¾@52⅜	50⅞@52
Friday	52⅛@50¾	51¼@49⅞
Saturday	50⅞@50	49⅞@49⅝
Monday	51 @49⅝	50⅝@49⅛
Tuesday	50⅞@52⅜	50 @51¼

SAN FRANCISCO WHEAT FUTURES.

The range of values in San Francisco for No. 1 White wheat per cental was as follows:

	Dec., 1904.	May, 1905.
Thursday	$1 50⅞@1 51¾	$——@——
Friday	1 51½@1 50⅜	——@——
Saturday	1 50¼@1 51½	1 50⅜@1 51¾
Monday	1 50½@1 49¾	——@——
Tuesday	1 50⅛@1 51⅛	——@——
Wednesday	1 52⅝@1 51¼	——@——

Wheat.

There has been no great amount of trading in the local spot market the past week. Asking prices were without appreciable change, but buyers were not disposed to operate freely at full current figures. There were no heavy offerings of California wheat, however, and not much arriving. In fact, more wheat has been lately coming forward to this center from Oregon and Washington than from the wheat sections of this State. In Chicago there were some rather sharp declines in speculative values, with not much outside buying. As is invariably the case, the speculative market is on the up grade when there are numerous outside buyers in the field, and when the buying stops the speculative values tumble. San Francisco operators in the open market have been this season taking Chicago as their guide on the breaks, but not on the booms. As Chicago is the focal point of wild speculation in grain, it can readily be seen that to follow only her declines would soon bring prices down to extremely low levels. Growers very properly refuse to submit to this sort of tactics, and therefore the plan fails to work to the satisfaction of buyers. As it is, there is too much difference against the local producer. The Chicago market is to-day nearly 50% higher on December wheat than a year ago. Here December wheat is about 7% higher than a year ago, and quotable values for spot wheat in this market do not show an improvement of 5% over the figures ruling at corresponding time last year.

California Milling	$1 50 @1 60
Cal. No. 1 shipping, alongside	1 42½@1 47½
Oregon Club	1 40 @1 45

PRICES OF FUTURES.

During past week the range on options was:
December, 1904, delivery, $1.49¾@1 52⅝.
May, 1905, delivery, $1.50⅜@1.51¾.
Wednesday, at the forenoon session of Exchange, December, 1904, wheat sold at $1.52⅝@1.51¼; May, 1905, $——@——.

Ocean freights and prices for wheat, as compared with a year ago, are as follows:

	1903-04.	1904-05.
Liv. quotations	-s-d@-s-d	-s-d@-s-d
Freight rates	12½@15¾s	21½@—s
Local market	$1 47½@1 45	$1 42½@1 47½

Flour.

Business is of fair proportions, both for shipment and on local account. Stocks of desirable qualities of recent production are not heavy, and for this description of flour the market is rather firm in tone, quotable values remaining practically as before noted. There is considerable flour which has been on the market some time and same is being offered at material concessions to buyers who will take hold in wholesale fashion.

Superfine, lower grades	$3 25 @3 50
Superfine, good to choice	3 50 @3 75
Country grades, extras	4 25 @4 50
Choice and extra choice	4 50 @5 00
Fancy brands, jobbing	5 00 @5 25
Oregon, Bakers' extra	3 75 @4 25
Washington, Bakers' extra	3 75 @4 40

Barley.

Operators have been endeavoring to bear the market, but their efforts have not been attended with much success, especially as regards desirable shipping grades, also good to choice feed, which will pass inspection as No. 1, and can be used for deliveries in 100-ton lots on December contracts. A 2,700-ton cargo of barley, valued at $64,000, went outward the past week for Europe. Of the sixteen ships now on the engaged fleet in this port, nearly all are expected to receive barley as part cargo, and most of them will take little else, if the barley necessary to load them can be secured. Clearances of this cereal for the season to date aggregate less than 25,000 tons, as against 67,000 tons for same period last year and 92,000 tons for same time in 1902. There is every reason to believe that there will be as much demand in Europe for California barley this year as there was last season. A ship was chartered for barley to a U. K. port direct at 21s.

Feed, No. 1 to choice	$1 10 @ —
Feed, fair to good	1 06¼@1 08¾
Brewing, No. 1 to choice	1 12½@1 20
Chevalier, No. 1 to choice	1 20 @1 30
Chevalier, common to fair	1 00 @1 10

Oats.

There have been tolerably free arrivals of oats, mostly from points in this State, and largely Reds of fair to medium quality. Values have ruled tolerably steady for ordinary feed descriptions and firm for high grade seed oats, particularly for Blacks. Prices in Oregon and Washington at present are nearly as high as in this center, and consequently there is little or no opportunity now to import to advantage from those sections.

White oats, fancy feed	$1 40 @1 42½
White, good to choice	1 35 @1 38¾
White, poor to fair	1 25 @1 30
Milling	1 32½@1 37½
Black oats	1 20 @1 65
Red, fair to choice	1 20 @1 45

Corn.

Stocks of Eastern are of fair volume, mostly of rather common quality, and are being in the main steadily held. California corn is in too light supply to admit of any extensive wholesale trading. For choice domestic the market is firm.

Large White, good to choice	$1 40 @1 50
Large Yellow	1 40 @1 50
Small Yellow	1 60 @1 65
Egyptian White	1 35 @1 40
Egyptian Brown	1 25 @1 30
Eastern, in bulk	1 32½@1 40

Rye.

Not much offering, neither is the demand brisk at prices asked.

Good to choice	$1 35 @1 40

Buckwheat.

New crop is expected on market at an early date. Good to choice is quoted nominally at $2.00@2.25 per cental.

Beans.

New crop beans from Sacramento river section are arriving in moderate quantity. Some dealers are attempting to depress values, but that they will meet with any pronounced success is doubtful. There is a fairly active demand for new beans and, the crop is turning out light. The acreage is not heavy, and the hot spell early in the month cut down the yield materially.

Pea, fair to good, 100 lbs	$2 75 @3 00
Small White, good to choice	2 90 @3 10
Large White	2 25 @2 50
Pinks	2 50 @2 85
Bayos, good to choice	2 25 @2 50
Red Kidneys	4 50 @5 00
Reds	3 50 @4 00
Limas, good to choice	3 90 @4 10
Black-eye Beans	2 35 @2 55

Dried Peas.

Demand is good for desirable qualities, offerings are of small volume and market is firm at ruliug rates.

Green Peas, California	2 00 @2 50
Garbanzos, Large	3 25 @3 50
Garbanzos, Small	3 00 @3 25

Hops.

Most of the crop in this State has been picked, the quality and quantity being in the main satisfactory and up to the expectations of growers. Market continues unfavorable to buyers, growers as a rule having their ideas near the 30c point, but to sell freely a materially lower figure would have to be accepted. Nearly half the crop of the coast is believed to be now under the control of dealers. A Portland paper says the hop crop of Oregon is being scaled down to 80,000 bales instead of 90,000, as figured on previously, and the greater part of the crop only medium quality. A Seattle paper states that the Washington crop will be 5000 bales less than last year, or not to exceed 30,000 bales. The New York Producers' Price Current reports that in New York State in some sections weather lately has been unfavorable to hops, and both vermin and mold have appeared; this will damage the crop on the poles and may reduce the quantity. Some estimates are already being cut down. Buying in the interior up to this time has been active and prices fully maintained, but dealers are now acting more cautiously, and are less disposed to purchase yards that are not entirely picked. Reports from England are as discouraging as previously reported and we think the estimates are likely to be cut still further. Some of the cable advices now place the crop at 325,000 cwt. Germany has practically finished picking and the crop is estimated at 370,000 cwt. against 437,000 cwt. last year. The tone of our local market has continued very firm, and a decidedly strong feeling seems to pervade the trade. Brewers are showing some interest, but naturally large quantities cannot as yet be handled.

California, good to choice, 1904 crop	25 @29

Wool.

As has been the case for months past, dealers are doing nearly all their buying in the interior, and little or no opportunity is given wools, in the shape of offerings from first hands, any chance to accumulate in this center. The market continues to present a healthy tone. Eastern and foreign advises report prevailing values in all centers being well maintained. The Red Bluff News of September 18 says: "One thousand bales of wool were sold in Red Bluff Saturday and the top notch price is said to be about 12½c. A number of the large clips are now cleaned up and only a few remain unsold. The wool from the Vina ranch was sold a week ago, and Manager T. H. Ramsay sold the clip of the Cone Ranch Co. and the Cone & Ward sheep while he was in San Francisco during the conclave. The prices this fall have ranged from 1½@2c better than last year. The end of the present week will see all the Tehama county wool sold. It is estimated that the total output from this market will be around 2500 bales."

SPRING.

Northern, free	22 @—
Northern, defective	17 @20
Oregon, good to choice	20 @22
Nevada	15 @20

FALL.

Northern	14 @17
San Joaquin and Southern, free	12 @14
San Joaquin and Southern, defective	8 @10
Southern lambs, as to quality	8 @14

Hay and Straw.

The hay market is moderately firm at current values for choice to select Wheat and Tame Oat, but for common qualities of all descriptions the demand is slow at a low range of prices, despite limited receipts. Considerable quantities of hay are awaiting transportation in the interior, the railroads lately having been unable to bring freight forward as rapidly as desired, owing to rush of passenger business. In the near future, however, a material increase in receipts by rail is anticipated. Straw is in fair supply and market for same is easy in tone.

Wheat, good to choice	$12 00 @ 13 50
Wheat and Oat	8 50 @ 11 00
Tame Oat, fair to choice	8 00 @ 11 50
Wild Oat	7 00 @ 10 00
Barley	7 00 @ 9 00
Alfalfa	9 00 @ 11 00
Compressed	10 00 @ 13 50
Straw, ℔ bale	40 @ 60

Millstuffs.

Bran is in liberal supply and market is inclining in favor of buyers, although there are no pronounced changes in quotations. Stocks of Middlings are of fair proportions and are ample for current needs. Values for Rolled Barley and Milled Corn are being maintained at about same range as last quoted.

Bran, ℔ ton	$20 00 @ 21 00
Middlings	24 00 @ 27 00
Shorts, Oregon	21 00 @ 22 00
Barley, Rolled	22 50 @ 23 50
Cornmeal	31 50 @ 32 00
Cracked Corn	32 00 @ 33 00
Oilcake Meal	31 50 @ 33 00

Seeds.

Market in the main is quiet. Some Flaxseed is arriving from the North, going mostly on contract direct to the mills. Yellow Mustard is offering in moderate quantity, but Trieste is scarce. Canary Seed is being offered sparingly and is commanding stiff prices.

Alfalfa, Cal., good to choice	$14 00 @16 00
Flax	1 75 @ 2 25
Mustard, Yellow	3 15 @ 3 25
Mustard, Trieste	3 25 @ 4 50 Per lb.
Canary	7 @—
Rape	1¾@ 2½
Hemp	3½@—
Timothy	5 @ 5½

Honey.

Spot stocks are of rather light volume and are mostly of amber grade. There is little selling pressure, especially on good to choice honey. Some holders are contending for stiffer figures than are warranted as regular quotations. Not much is changing hands, and business doing is principally on local account.

Extracted, White Liquid	6 @ 6½
Extracted, Light Amber	5 @ 6
Extracted, Amber	4 @ 4½
Extracted, Dark Amber	3½@ 3¾
White Comb, 1-frames	12½@13
Amber Comb	9 @11

Beeswax.

Spot supplies are light. No trouble is experienced in finding buyers for desirable qualities at full current values.

Good to choice, light ℔ lb	29 @30
Dark	27 @28

Live Stock and Meats.

Beef was in good request and for prime to choice the market was firm at ruling rates. Veal in first-class condition met as a rule with ready sale at full current values. Mutton was in fairly liberal supply and prices were without appreciable change, but demand was good and market presented a generally better tone than previous week. Lamb sold to very fair advantage, although there was no scarcity. Hogs went at much the same range of prices as preceding week, with market for desirable packing stock moderately firm at the values prevailing.

Allowing for the shrinkage of about 50%, which is exacted in buying cattle on the hoof, live cattle command as much or more per pound than dressed beef, the shrinkage exacted being the slaughterers' profit.

The following quotations for beef and mutton are based on prices realized by slaughterers from wholesale dealers:

Beef, 1st quality, dressed, net ℔ lb	5½@ 6½
Beef, 2nd quality	4½@ 5½
Beef, 3rd quality	4 @ 5
Mutton—ewes, 6@6½c; wethers	6½@ 7
Hogs, hard grain, 140 to 200 lbs	4⅝@—
Hogs, large, hard, over 200 pounds	4½@ 4½
Hogs, small, fat	4½@ 4¾
Veal, large, ℔ lb	7 @ 8
Veal, small, ℔ lb	8 @ 9
Lamb, spring, ℔ lb	8 @ 8½

Hides, Skins and Tallow.

Market for Dry Hides is showing a firm tone, but is not quotably higher. Wet Salted Hides are in good demand at improved figures. Business doing in Pelts is at generally unchanged values. Tallow is moving outward to considerable extent; a steamer sailing Saturday took 53,000 lbs. for Central America.

Nothing but select hides, clean and trimmed will bring full figures. Culls of all kinds, either from grubs, cuts, hair slips, side brands or murrain, are not always readily placed at the lower figures.

	Sound.	Culls.
Heavy Steers, over 56 lbs	— @10	— @ 9
Medium Steers, 48 to 56 lbs	9 @ 9½	8 @ 8½
Light Steers, under 48 lbs	8½@ 9	8 @—
Heavy Cow Hides, over 50 lbs	9 @ 9½	8 @ 8½
Light Cow Hides, under 50 lbs	8½@ 9	8 @—
Stags	6½@ 7	6 @ 6½
Wet Salted Kip	— @ 9½	— @ 8½
Wet Salted Veal	— @10	— @ 9
Wet Salted Calf	— @11	— @10
Dry Hides	—@16	—@15
Dry Kip and Veal, 11 to 16 lbs.	—@13	—@12
Dry Calf, under 4 lbs	18 @19	16 @17
Pelts, long wool, ℔ skin		1 00@1 50
Pelts, medium, ℔ skin		70@ 90
Pelts, short wool, ℔ skin		40@ 60
Pelts, shearling, ℔ skin		15@ 30
Horse Hides, salted, large prime, each		2 75@—
Horse Hides, salted, medium		2 50@—
Horse Hides, salted, small		2 00@—
Horse Hides, dry, large		1 75@—
Horse Hides, dry, medium		1 50@—
Horse Hides, dry, small		1 00@—
Tallow, good quality		4 @4½
Tallow, poorer grades		2½@3½

Bags and Bagging.

Trade in this line is at present exceedingly light. There is no scarcity of supplies of any description. Calcutta Grain Bags are offering in large lots at 5½c.

Bean Bags	$ 4¾@5
Fruit Sacks, cotton	6¾@6¾
Fruit Sacks, jute, as to quality	5¾@7
Grain Bags, Calcutta, 22x36, spot	5⅛@5¼
Grain Bags, San Quentin, ℔ 100	4 75 @—
Wool Sacks, 4-lb	32 @—
Wool Sacks, 2¼-lb	30 @—

Poultry.

There was a good market during the greater part of the week for most kinds of poultry in first-class condition, demand being largely for Young Chickens, medium size to full grown and in fine flesh. Inquiry for Turkeys was not active, although choice young brought tolerably good figures. Ducks which were large and fat did not lack for custom, bringing in some instances above quotations. Geese and Goslings sold at much the same range as previous week. Pigeon market was rather firm for young of full size and in fine condition; old were not eagerly sought after.

Turkeys, Young, ℔ lb	$ 20 @ 22
Turkeys, live gobblers, ℔ lb	14 @ 15
Turkeys, live hens ℔ lb	15 @ 17
Hens, California, ℔ dozen	4 00 @ 4 50
Hens, large	5 00 @ 6 00
Roosters, old	4 00 @ 4 50
Roosters, young (full-grown)	5 00 @ 6 00
Fryers	4 00 @ 4 50
Broilers, large	3 00 @ 3 50
Broilers, small to medium	2 50 @ 3 00
Ducks, old, ℔ dozen	4 00 @ 4 50
Ducks, large young, ℔ dozen	4 00 @ 6 00
Geese, ℔ pair	1 50 @ 1 75
Goslings, ℔ pair	1 75 @ 2 00
Pigeons, old, ℔ dozen	1 25 @ ——
Pigeons, young	1 50 @ 2 00

Butter.

High grade fresh was in light receipt and higher, with market firm at the advance. Fresh butter other than choice to select was not in active request, even at seemingly low figures, buyers in most instances taking cold storage butter, both home and imported product, in preference to common fresh.

Creamery, extras, ℔ lb	29 @—
Creamery, firsts	26 @27
Creamery, seconds	22 @24
Dairy, select	24 @26
Dairy, firsts	22 @23
Dairy, seconds	19 @21
Mixed Store	14 @—

Cheese.

Stocks of domestic flats are of rather large proportions and considerably ahead of the immediate demand; for the general run of offerings the market lacks firmness. Young Americas are not in heavy supply, but the inquiry for them is very light at present. Eastern cheese is in moderate stock and is being steadily held, tendency at primary points being to more firmness.

California, fancy flat, new	9¼@10
California, good to choice	9 @ 9¼
California, fair to good	8½@ 9
California, "Young Americas"	10 @11
Eastern	10 @13

Eggs.

Receipts of strictly choice to select fresh are light, and this is likely to be the experience for several months to come. Uniformly large and white eggs of best quality are commanding comparatively stiff figures, especially is this the case with favorite brands going to special custom. For domestic fresh showing irregular quality the market is not firm, such eggs having to come into direct competition with cold storage and Eastern.

California, select, large, white and fresh.	38	@—
California, select, irregular color & size.	30	@34
California, good to choice store	27	@30
Eastern firsts	23	@27
Eastern seconds	20	@22

Vegetables.

Most varieties now coming forward are in liberal receipt, especially other than strictly choice to select, and for the general run of offerings the market was slow and weak. Tomatoes were in particularly heavy supply; some of common quality went to canners and catsup makers as low as 15c per box. String and Lima Beans were in decreased stock and brought slightly better figures. Onions were in good supply, with demand not very active and values barely steady.

Beans, Lima, ₱ lb	2½@		3½
Beans, String, ₱ lb	2½@		3½
Cahhage, choice garden, ₱ 100 lbs	75	@ 1	00
Corn, Green, ₱ crate	75	@ 1	25
Cucumbers, ₱ hox	25	@	50
Egg Plant, ₱ hox	30	@	50
Garlic, ₱ lb	3½@		4½
Okra, Green, ₱ box	30	@	50
Onions, Yellow Danver, ₱ ctl	1 00	@ 1	25
Peas, sweet garden, ₱ lb	2½@		3½
Peppers, Green, ₱ hox	35	@	65
Summer Squash, ₱ box	25	@	50
Tomatoes, hox	15	@	40

NOTE.—Large hoxes are what are known to the trade as "pay hoxes," which have to be returned or paid for. They are open top, with hand holes in the ends, and weigh when filled from 50@60 lbs gross. Small boxes are free hoxes, about the same as the regular fruit box, weighing when full from 20 to 30 lbs. gross.

Potatoes.

Market has ruled quiet for potatoes most of the time since last review, with no pronounced changes in quotable values, but stocks and offerings were steadily ahead of the immediate demand. Some rather large shipments were made to Dawson and Honolulu, but with these exceptions the outward movement was light. Sweets were in increased supply and the market inclined in favor of buyers.

Salinas Burhanks, ₱ cental	90	@ 1	30
Potatoes, white, ₱ cental	60	@	80
Sweet Potatoes, ₱ cental	1 00	@ 1	25

Fresh Fruits.

Apples continued to be offered freely, with a heavy proportion of common quality, and market for other than strictly choice to select was slow and weak. Sales of best qualities were mainly within range of $1.25@1.35 per box, few being salable in a regular wholesale way above latter figure. The Bartlett Pear season is nearly ended; such as are choice are readily salable to fair advantage. Late varieties of Pears are not yet in particular favor with consumers. Peaches are not arriving in heavy quantity and are mostly from the mountain sections of this State or from Oregon. Choice mountain Peaches are bringing comparatively good prices. Oregon Salways went to canners at $25@30 per ton. Plums and Prunes sold at much the same range of prices as last quoted, but tendency on most desirable varieties of Plums was to somewhat better figures than had been ruling. Figs of second crop were rather plentiful and market for this fruit was without special firmness. Table Grapes were in liberal supply and cheap. A few Wine Grapes of superior quality brought tolerably good figures, some select Zinfandels going to family and restaurant trade at $20@21 per ton. Melons were in quite free receipt and market was devoid of firmness. Berries were not in heavy supply, but demand was only moderate; common qualities sold at a low range.

Apples, fancy, ₱ 50-hox	1 25	@	1 50
Apples, good to choice, 50-lb. hx	1 00	@	1 25
Apples, fair to good, ₱ hox	65	@	1 00
Blackherries, ₱ chest	2 00	@	3 50
Cantaloupes, ₱ crate	50	@	1 25
Figs, Black, 2 layers	35	@	60
Figs, Black, ₱ large hox	60	@	1 00
Figs, White, ₱ small hox	30	@	50
Grapes, Black, ₱ crate	30	@	50
Grapes, Muscat, ₱ crate	40	@	65
Grapes, Seedless, ₱ crate	40	@	65
Grapes, Tokay, ₱ crate	40	@	65
Grapes, Isahella, ₱ crate	40	@	75
Grapes, large open hoxes	50	@	1 00
Huckleherries, ₱ lb	6	@	8
Nutmeg Melons, ₱ hox	30	@	60
Peaches, freestone, ₱ pay box	65	@	1 25
Peaches, freestone, ₱ free hox	40	@	1 00
Pears, No. 1 Bartlett, ₱ 40-lb hox.	1 25	@	1 40
Pears, Bartlett, No. 2, ₱ hox	65	@	1 00
Pears, Winter Nelis, ₱ box	65	@	1 25
Pears, Cooking, ₱ hox	30	@	70
Plums, Large, ₱ hox	50	@	90
Prunes, ₱ hox	50	@	75
Quinces, ₱ hox	40	@	60
Raspherries, ₱ chest	5 00	@	8 00
Strawherries, large, ₱ chest	2 00	@	6 00
Watermelons, ₱ doz	1 00	@	3 00

Dried Fruits.

The market for most kinds of evaporated and sun dried fruits continues to show healthy condition. Offerings of Apricots are of light proportions and current values are being well maintained, especially for best qualities. Apples are coming forward in considerable quantity and custom is being solicited at generally lower figures than have been lately current on this fruit. Market for Peaches is showing decided steadiness, with stocks largely in second hands and mostly of good to choice quality. Buyers in quest of common and cheap Peaches are meeting with poor success this season. Nectarines have been inclining to some extent in favor of the selling interest, having been lately rather low as compared with Peaches, which fruit they occasionally take the place of in the dried state, prices being favorable for the substitution. There are few Pears coming forward, and market for choice to select is firm at better average figures than lately prevailing. Plums make a light showing and choice are readily salable, market being firm at the quotations. Prune market remains unsatisfactory to the producing interest, sales of new crop for forward delivery being difficult to effect over the 1¼c basis for the four sizes. The steamer Umatilla, sailing Saturday last, carried 56,170 lbs. dried fruit, including 14,500 lbs. Prunes. The steamer Korea, sailing Tuesday for the Orient, carried 15,300 lbs. dried fruit.

EVAPORATED OR BLEACHED.

Apples, 50-lb boxes, rings, pressed, good to choice	5½@ 6
Apples, extra choice to fancy, 50-lb hoxes.	6 @ 6½
Apricots, Moorpark	8 @10½
Apricots, Royal, good to choice, ₱ lb	7½@ 8½
Apricots, Royal, fancy	9 @10
Figs, 10-lb hox, 1-lb cartons	50 @65
Nectarines, Red, ₱ lb	5 @ 5½
Nectarines, White and Yellow	5½@ 6½
Peaches, unpeeled, good to choice	5¾@ 6½
Peaches, unpeeled, fancy to extra fancy	7½@ 8½
Pears, standard, ₱ lb	6 @ 6½
Pears, choice to fancy	7 @10
Plums, Black, pitted	5½@ 6½
Plums, Red, pitted	6½@ 8
Plums, Yellow, pitted	6½@ 7½
Prunes, Silver, good to fancy	3½@ 7

Prunes, in hags, 4 sizes, 1⅞@1⅝c; 40-50s, 3¼@3½c; 50-60s, 2⅝@2⅞c; 60-70s, 2⅛@2⅜c; 70-80s, 1⅝@1⅞c; 80-90s, 1⅛@1⅜c; 90-100s, ¾@⅞c; small, ⅜@½c.

COMMON SUN-DRIED.

Apples, sliced	3½@ 4½
Apples, quartered	3½@ 4½
Figs, White, in hulk	2½@ 3½
Figs, Black	2½@ 4

Raisins.

Below are given the new prices for raisins, established by the California Raisin Company, the combination of seeders which bought the hold-over crop of the association. These figures represent a reduction from the association's last named prices of half a cent on all loose goods, with the single exception of seeded Muscats, the reduction in that case being a quarter of a cent. The price of seeded of the 1903 crop remains the same as it has been, while the price of seeded of the 1904 crop is an advance of a cent on fancy and three-quarters of a cent on choice of the 16-oz. package; and three-quarters of a cent advance on fancy 12-oz. and five-eighths of a cent advance on choice 12-oz. For new raisins in the sweat box packers are reported paying 2c per pound.

CROP OF 1903.

2-Crown Standard	2 c
3-Crown Standard	2½c
2-Crown Pacific	1¾c
3-Crown Pacific	2¼c
2-Crown Malagas	1¾c
3-Crown Malagas	2¼c
Seedless Muscats	1¾c
Seedless Sultanas	2 c
Fancy, 16-oz. Seeded	4½c
Choice, 16-oz. Seeded	4 c
Fancy, 12-oz. Seeded	3⅝c
Choice, 12-oz. Seeded	3¼c

CROP OF 1904.

Fancy, 16-oz. Seeded	5½c
Choice, 16-oz. Seeded	4¾c
Fancy, 12-oz. Seeded	4⅜c
Choice, 12-oz. Seeded	3⅞c
Bulk	¼c less
Cash discount	1½%
Brokerage	2½%

Citrus Fruits.

Valencia Oranges were in fair supply, three cars coming on the market this week. These last arrivals are of fine quality for this time of year, and the fruit is being firmly held. Lemon market was less active than for a week or two preceding and prices were at a lower range. Limes were in increased supply and quotations were reduced.

Oranges, Valencias, ₱ hox	2 50	@3	50
Lemons, California, select, ₱ hox	3 00	@3	25
Lemons, California, good to choice	2 50	@3	00
Lemons, California, fair to good	1 25	@2	50
Grape Fruit, ₱ hox	2 00	@3	00
Limes, Mexican, ₱ box	5 00	@5	50

Nuts.

Almonds are mostly in second hands. Dealers are asking stiff prices, and there is little less than asking rates of wholesale handlers upon which to base quotations at present. No Walnuts on market; new crop is expected to put in an appearance in about a month. Peanuts are in light supply.

Nonpareil Almonds	13 @15
I X L Almonds	12½@14
Ne Plus Ultra Almonds	12 @13
Languedoc Almonds	9½@10½
Peanuts, fair to prime	5 @ 5½

Wine.

While this year's yield of dry wines will be undoubtedly light, there is nothing to indicate any quotable improvement n values of last year's product, the wholesale range remaining at 15@18c. per gallon, transfers at extreme figures being confined mainly to limited quantities going to small dealers. Market for dry wine grapes is showing firmness and is quotable at $13@18 per ton. The Association is bidding $15 on 5-year contracts. For sweet wine grapes $8@12 per ton is being bid in some sections, and considerable quantities are being secured within this range. For last year's sweet wine 30c. per gallon is the ruling price at the wineries. Receipts of wine last week at San Francisco were 448,450 gallons and for preceding week were 273,350 gallons. The steamer Barracouta, sailing Saturday, carried 57,885 gallons and 42 cases, including 52,514 gallons for New York.

Produce Receipts.

Receipts and exports of leading cereals and other California products for the past week and for the season to date, as compared with the corresponding time the previous year, are as follows:

FOR THE WEEK.		Since July 1, 1904.	Same time last year.
Flour, ¼ sks	87,894	1,071,221	1,393,429
Wheat, ctls	119,131	525,887	468,658
Barley, ctls	152,788	839,837	1,735,992
Oats, ctls	30,301	234,242	339,353
Corn, ctls	2,300	19,619	36,118
Rye, ctls	2,704	15,016	18,458
Beans, sks	6,793	41,803	41,934
Potatoes, sks	27,082	266,228	272,300
Onions, sks	5,941	36,243	46,067
Hay, tons	2,999	56,866	61,946
Wool, bales	1,440	13,672	14,287
Hops, bales	757	1,488	4,487

EXPORTS BY SEA.

FOR THE WEEK.		Since July 1, 1904.	Same time last year.
Flour, ¼ sk	54,760	807,832	927,724
Wheat, ctls	20,393	63,414	141,858
Barley, ctls	121,142	401,143	1,127,739
Oats, ctls	326	4,632	6,844
Corn, ctls	1,226	4,505	4,169
Beans, sks	2,187	7,289	4,609
Hay, hales	2,754	33,566	39,815
Wool, lbs	....	704,522	1,260,659
Hops, lbs	11,007	18,702	95,427
Honey, cases	3	334	215
Potatoes, pkgs	4,823	21,759	19,213

French Almond Crop.

From United States Vice-Consul-General V. H. MORGAN, Marseille, France.

Advices which have reached me indicate that this year's crop of Provence almonds will much exceed that of last year. This result is due largely to the absence of late frosts. The following table shows the estimated output of the principal regions of production compared with the product of 1903:

FOREIGN ALMOND PRODUCTION IN 1903 AND 1904.

Country.	1903. Bales.	1904. Bales.
Provence	8,000	50,000
Spain:		
Majorca	75,000	70,000
Malaga, Murcia, Carthagenia, Alicante	60,000	60,000
Sicily	100,000	80,000
Bari	100,000	75,000
Morocco, Tunis, Corsica, Sardinia	50,000	60,000
Levant, and other minor sources	20,000	20,000
Total	413,000	415,000

From these figures it will be gathered that in spite of a heavy crop in southern France the total quantity available is not expected to exceed materially that of last year. With 100,000 bales of the old crop still being offered, prices are expected to average $25.30 for 220 pounds, though possibly a considerably higher price may be reached. The following freight rates on almonds from Marseille to New York are quoted to me: Shelled, $7.29, and unshelled, $9.50 a ton, plus the loading charge of 19.3 cents a ton.

Marseille, France, August 3.







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THE VETERINARIAN.

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By DR. NORMAN NEILSON, Acting Secretary of the Medical Association of the San Francisco Veterinary College, 510 Golden Gate avenue.

CAUSES OF ENLARGED LIVER.

TO THE EDITOR:—What are the conditions that make cows sick with enlarged liver? We had one cow die, another is very sick with the same symptoms.—ENQUIRER, Corning.

An examination of the liver in cows is usually impracticable, and, in fact, of little importanee, because primary diseases of these organs are rare. When greatly enlarged the liver in the ox may be felt, and tubercles, echinococci and tumors recognized. There is no treatment. The tuberculin test would probably prove the existence of tuberculosis.

PERIODIC OPTHALMIA.

TO THE EDITOR:—I have a mare which has a cataract in one eye, and I believe there is another growing on the other eye. Is there anything that can be done to save her eyesight?—R. S. G., Wrights.

The fact of both eyes being affect c is a strong evidenec that the mare d suffering from periodic opthalmia—an inflammatory affection of the interior of the eye. Practically nothing can be expected from medieal treatment. Massage to the eye with the palm of the hand, together with a eourse of tonics, may postpone the calamity for a time.

For a tonic give: Sulphate of iron, 1 part; powdered gentian, 2 parts; powdered saltpeter, 1 part. One tablespoonful 3 times daily in the feed.

Calf Cholera.

Dr. A. T. Peters, Veterinarian of the Nebraska Experiment Station, gives an aceount of calf cholera, which has spread very rapidly in that State and has caused very serious losses. In localities where it has not prevailed it is regarded as a new disease; yet it is one of the diseases that comes with the dairy industry, and is one that is well known to dairymen in the districts where dairying predominates. Investigations relative to this disease have been carried on to a great extent at this station. Not only has this station taken up this line of work, but other investigators have been working on the same line, and they all conelude the cause of the disease is a germ which enters the navel; and when the navel is kept clean and not allowed to become infected, this disease can be very easily cured.

Calf cholera chiefly attacks animals from one to four days old. It seems that after this age there is not much danger, yet we have had reports where it affeeted animals at the age of ten and twelve days. It also prevails to a larger extent in ill-ventilated, badly-drained stables; yet we have known it to occur in stables that were models of sanitation. It has also been shown by European investigators that this disease can be transmitted from one species to another.

The symptoms in the different species of animals are very much the same, and are well known to the cattlemen. The first indieation is that calves lose their appetite, and next will be observed a watery discharge from the anus. The animal appears restless, and has ineffeetual straining to pass dung. They bellow and seem to be in distress. The excrements, which first seem to be somewhat curdled, later become of a yellowish color, then watery, and finally of a water color. After these continue they may be streaked with blood and mucous membranes. We also see particles of coagulated milk discharged. At the later stages the excrements have a strong odor. The animals become very weak and grow rapidly weaker, and lie down. This may be accompanied with convulsions. The eyeballs beeome sunken, the hair rough, the general indications of death occur. Death usually occurs from twelve to twenty-four hours after the symptoms are well marked, though some cases may run from two to three days, and I have seen some where medieal aid has kept them for five days. The pulse is high and also the temperature.

As it is known that the animal becomes affected through the navel by some germ, therefore the prevention of this disease is the only sure method by which we can receive any aid. It has been demonstrated that the treatment, after the animal shows symptoms of the same, was of little avail, and the larger per cent of them died on aecount of the rapidity with which they begin to collapse. Upon the arrival of the calf the navel is immediately disinfected with a disinfeetant solution, and this must be continued until it is thoroughly healed. In case animals show symptoms of the disease, the navel must be thoroughly cleaned, and lukewarm water containing 3% of the disinfeeting fluid is injected into the anus at least three times a day. The animals should be kept by themselves so as to avoid all danger of infection, and should be given half an ounce of alcohol in either a linseed tea or a flour tea every three hours to stimulate the heart. To apply hot applications around the ehest, to avoid congestion, is also advisable. This is done by taking a piece of cloth, saturating it with hot water and winding it around the chest walls, and covering this with a woolen blanket. This will stimulate the animal wonderfully. If these methods are carried out, the greater number of the animals can be saved.

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Agricultural Purchasing Society of Russia.

The agricultural attache of Germany who is stationed at St. Petersburg reports that the semstwos (county administrative bodies) of fifteen provinces of the Russian Empire have agreed upon the following: 1. The provincial administration of Orel is to take sole charge of purchasing agricultural machines and implements, except plows. 2. The provincial administration of Moscow will purchase all iron plate and sheets. 3. The provincial administration of Smolensk will buy all implements and machines for dairy use. 4. The purchase of seeds is to be attended to by the provincial administration of either Kaluga or Jaroslow. 5. It has not been settled yet which provincial administration will have charge of the purchasing of fertilizers. It is expected that this central organization will soon absorb all semstwos of Russia.—Richard Guenther, Consul-General, Frankfort, Germany, July 25, 1904.

A Learned Horse.

BERLIN, Sept. 13.—The learned horse Hans has just stood a successful examination before a scientific commission including physiologists, psychologists, pedagogues, naturalists, trainers and others. Their report set forth that the evidence he gave of comprehending handwriting, his musical and color discrimination and mathematical work were performed under circumstances excluding the possibility of a trick. The methods of the horse's owner, Herr Von Osten, are pronounced to be those of a pedagogue rather than of an animal trainer. The case appears to them to be wholly exceptional and to deserve thorough scientific study.

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THE PUBLIC LANDS.

California State Lands.

In presenting his biennial report to the Governor, Victor H. Woods, State Surveyor-General, states that the grant of 500,000 acres for internal improvements has been completely disposed of, and that the only lands remaining to be disposed of are the sixteenth and thirty-sixth sections, and lands in lieu thereof, the swamp, overflowed and tide lands and the lands uncovered by the recession of the waters of inland lakes.

The report states that there is a considerable increase in the demand for State school land, and this is especially noticeable in the semi-arid lands where either Government or private irrigation projects are contemplated.

The report states that the greatest difficulty experienced in administering the affairs of the office has been from the retroactive effect of certain sections of the statutes, and it is recommended that legislative action be taken in several of these sections which work a hardship on prospective purchases of State lands.

The report also recommends that some legislation be enacted empowering certain officers of State to arbitrate all disputed questions of county boundaries, as many tracts of land are assessed in two counties, and in consequence unless taxes are paid in both counties the title becomes clouded by proceedings instituted to collect the delinquent taxes.

The report states that the records of the State Tide Land Commission as delivered to the office of the Surveyor-General are in a deplorable condition, many never having been delivered, while others have drifted away. In endeavoring to classify these it has been discovered that several important records, especially in reference to tide lands adjacent to San Francisco, are missing. It is claimed that certain parties in San Francisco are in possession of copies of these records which they are willing to dispose of, and the recommendation is made that they be purchased if they will supply the missing data, and can be procured at a fair price.

The report shows that the total area of land and water surface in the State of California, as shown by the latest annual report (1901) of the Commissioner of the General Land Office, is 158,233 square miles. The area of land surface appropriated is 41,857,242 acres; unappropriated is 42,649,008 acres; reserved is 16,063,670 acres. The water area is 1,299,200 acres, or a total of 101,269,120 acres.

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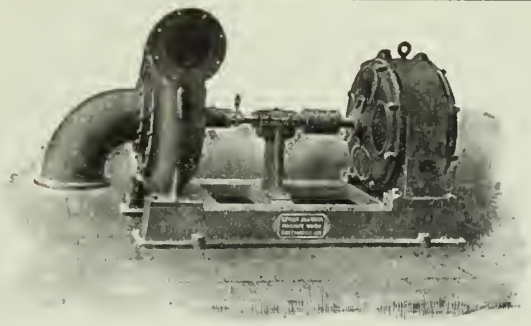
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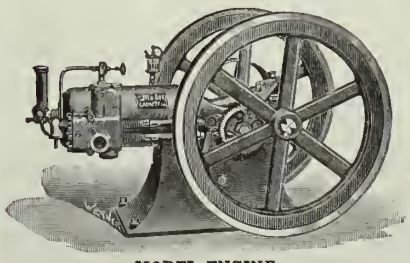
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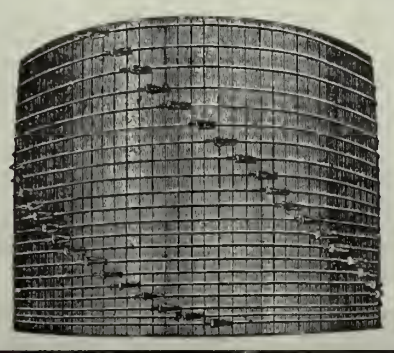
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Tulare Grange.

To the Editor:—Tulare Grange held its regular semi-monthly session on Saturday, the 17th. After reading and approval of minutes, a preamble and resolution were introduced and unanimously passed by the Grange, expressive of sorrow on the death of Hon. J. H Brigham, Assistant Secretary of Agriculture, and Past Worthy Master of the National Grange, P. of H.

Brother Brigham, in his official capacity, had to superintend the placing of the agricultural exhibit at the Louisiana Purchase Exposition He had left Washington and was on his way to St. Louis when, at his home in Ohio, death called him, as it will call on each and all of us, from this earthly sphere.

Brother Brigham was a sincere and zealous Patron of Husbandry. He gave much of time and ability to promoting and building up our Order. His labors have produced marked, beneficial results. His demise is mourned as a loss to the agricultural interests of the nation.

The report of the committee on free market in San Francisco was laid over to be called up for consideration at some future time.

A communication was read by the secretary from the Audubon Society of Southern California, requesting the Grange's support of a bill to be introduced at the next session of the Legislature of California for the better protection of no-game birds, specially mentioning the mourning dove. In a conversational way the subject was discussed, the general expression being that birds are the friends of the farmer. A committee of three, consisting of Sisters Zartman and Hamilton and Brother Fowler, was appointed to report at next meeting what birds should have legal protection and to what extent protection should be given.

A communication from Prof. Warren T. Clark, fixing the date for a Farmers' Institute in Tulare, December 21st and 22d next, and advising that Dr. Haring, professor of veterinary science and bacteriology in the College of Agriculture, Mrs. Shaw and himself will be here to lecture.

The Grange resolved to hold a Farmers' Institute on the days named, the Worthy Master appointing a committee of five to formulate a programme and make the necessary preparations.

A committee of three was appointed to formulate and present for approval at our next meeting such subjects as Tulare Grange desires to have considered at the State Grange, to convene in Oakland on the first Tuesday in October.

The subject of the day, "What is meant by the duty of water?" was opened by Brother Barber, who read a well-considered paper on the subject.

The subject is one of great interest to agriculture in California, and was freely discussed by all present until the Worthy Master announced that time for adjournment had arrived.

Brother Barber, himself a civil engineer of much experience, defined the duty of water as that amount, plus the rainfall, essential to properly irrigate a given area of land so as to ensure a profitable crop. This amount varies according to climatic conditions, the crop to be raised, the soil and soil conditions. For instance, in this location the annual rainfall is 6 to 8 inches per annum. In addition to this, alfalfa, our best forage crop, requires two floodings of 6 inches each per annum; this will, perhaps, be an average; some crops here, however, will do with less; some must have more.

The subject for next meeting is, "What constitutes the essential features inside the ideal home?" Sister C. P. Styles will read a paper leading the discussion. J. T.

New Patents.

Dewey, Strong & Co.'s Scientific Press Patent Agency, 330 Market St., S. F., has official reports of the following U. S. patents issued to Pacific coast inventors:

For week ending September 6, 1904.

769,371.—Well-Boring Apparatus—J. C. Adkins, Stockton, Cal.
769,372.—Painting Apparatus—J. J. Allen, Portland, Or.
769,453.—Bag-Sewing Machine—J. F. Ames, Portland, Or.
769,142.—Fishing Reel—W. L. Atkinson, Fairhaven, Wash.
769,374.—Sash Fastener—S. M. Berry, Los Angeles, Cal.
769,465—Rock Drill—W. Brady, S. F.
769,681.—Treating Oils—A. C. Calkins, Los Angeles, Cal.
769,305.—Compound—E. Davenes, Sierra Madre, Cal.
769,306.—Telephone—Denzer & Black, Everett, Wash.
769,307.—Miter Box—R. H. Dorn, Los Angeles, Cal.
769,256.—Propeller—H. Enge, Berkeley, Cal.
769,434.—Cleaning Ships' Bottoms—J. Forrest, Spokane, Wash.
769,213.—Lock and Latch—W. L. Frazer, National City, Cal.
769,263.—Reducing Ores—J. Herman, Bisbee, Ariz.
769,610.—Quartz Mill—C. E. Humphreys, Walker, Cal.
769,443.—Composing-Stick Tilter—S. Lack, Berkeley, Cal.
769,549.—Bottle—W. G Laurence, Oakland, Cal.
769,618.—Means for Observing Dust-Laden Air—A. Lotz, S. F.
769,391.—Boiler Feeder—H. H. Lyon, Riverside, Cal.
769,560.—Curling-Iron Heater—J. F. McCleary, S. F.
769,399.—Cable Traction System—A. Painter, S. F.
769,275.—Ironing Board—H. A. Plimpton, Riverside, Cal.
769,570.—Window Ventilator—D. Schafer, Sacramento, Cal.
769,360.—Engine Valve—R. Schultheiss, Tacoma, Wash.
769,416.—Band Brake—A. Sperl, Los Angeles, Cal.
769,361.—Wheel—J. S. Stevens, Los Angeles, Cal.
769,509.—Harp Holder—C. F. Sutter, Black Diamond, Cal.
769,367.—Shade Bracket—W. O. Weed, Medford, Or.
769,368.—Boiler Water Feed—T. M. Wilkins, Seattle, Wash.

Bright's Disease and Diabetes News.

1737 Broadway, San Francisco.
March 3, 1904.

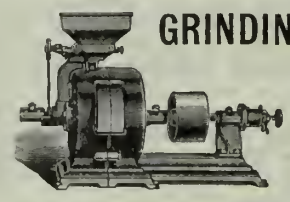
To the church women of California:

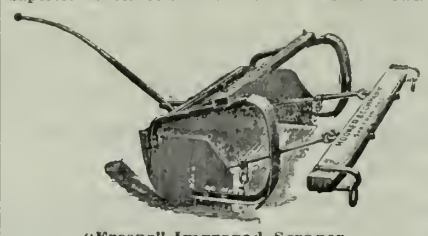
It is so hard for people to believe that Bright's Disease and Diabetes are now curable that I am asked to permit reference to my own case. I shrink from it, but there are too many dying to remain silent. To be brief, I had both Bright's Disease and Diabetes for over five years. Usual Dropsy, nails came off, and the case was so hopeless that the physicians told us there was no need to diet and to give me anything I craved. I heard that people were being cured in this city and procured the treatment. In a few months the nails came back, dropsy disappeared and in a year I was well. To show how well, will say that several years after my recovery I stood a capital operation at the Waldeck Sanitarium in the presence of six physicians. Many friends, including Dr. Markell of Cloverdale and Judge E. B. Cutler of Pine street, are fully cognizant of my recovery from Bright's Disease and Diabetes. In fact, Judge Cutler is himself now recovering from Diabetes under the same treatment. Let the cure be proclaimed to the world. MRS. S. E. CLINE.

The above refers to the newly discovered Fulton Compounds the first cures the world has ever seen for Bright's Disease and Diabetes. Send for pamphlet to Jno. J. Fulton Co., 407 Washington street, San Francisco.

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Was Not a Success at Orangevale.

To the Editor:—In a recent issue of the Pacific Rural Press there was an account by L. Clare Davis of the Stockton Mail of a Stanford girlie spending her summer vacation on her dad's fruit orchard. She donned a pair of overalls and helphed to harvest the prune crop. Instead of bending over and breaking her back, as a fool man would do, she just flopped down on her stumjack and reached out with both hands. When she was ready to move from one tree to another she didn't waste time getting to her feet, she just rolled over and over.

As Orangevale is quite a prune center, and as the Pacific Rural Press is probably read by every family, it is not strange that some would want to try it. They did with the result that to date not less than a dozen families have been estranged. One lady tried it. All went well until in rolling from one tree to another she ran afoul of a stick of imperial wood plentifully supplied with 2-inch thorns. She is now under the doctor's care and does not speak to her nearest and dearest friend, because she told her she was old enough to have better sense. Another young lady donned the pantys and was getting along finely until the neighbors' boys spied her out, crept up and peeked at her from behind trees and made very uncomplimentary remarks, such as "She'd take the cake as a low roller," etc.

The boy's ma told the young lady's pa that she ought to be arrested. It was just too indecent for anything, that she was no lady, etc. Five families are at outs in this particular neighborhood.

Still another case was that of a man who, wanting to try it on the sly, went off by himself, as he supposed, to a secret corner of his prunery with the result that his enemy discovered him. The said enemy went off to an adjoining drying yard and told the men working there that their neighbor had a terrible attack of fits, that he had been watching him for some time rolling on the ground, and that he was afraid to go near him alone, and that the best thing they could do was to chuck him into an irrigation ditch, which they proceeded to do in short order. This case came very nearly ending in a tragedy. The prune grower that was ducked swears he will kill his enemy on sight.

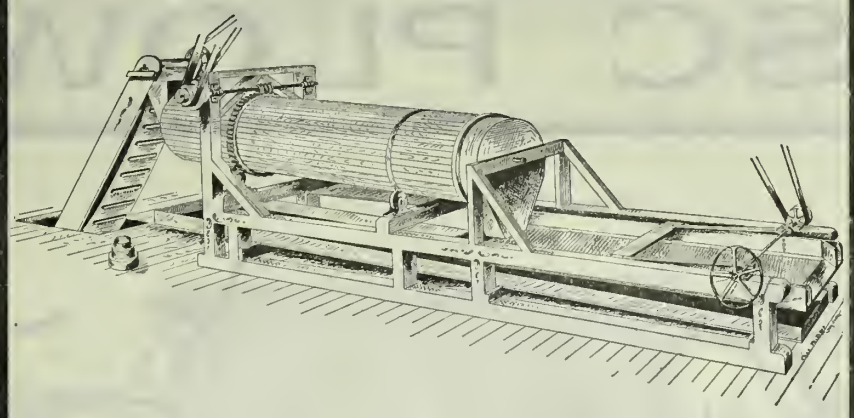
I've tried it, Mr. Editor, and it didn't work. After rolling around for half an hour I felt as if I had been run through the cylinder of a thrasher. In addition I was covered with dirt from head to foot. Mashed prunes were in evidence all over me, so much so that my better half advised me at noon to go and eat with the pigs. She relented, however, and allowed me to dine in the woodshed. 'Rah for the old way of picking prunes. Chas. Blom.

Orangevale, Sacramento county, Cal.

Another Poultry Book.

A new poultry book, especially suited to enlighten those undertaking poultry production under California conditions, has been published by the Out West Publishing Co. of Los Angeles. Its title is "A Practical Poultry Plant for Southern California," and the author is Captain E. Pryce Mitchell, a master mariner, who has given the last five years of his life to the navigation of a chicken ranch in that part of the State. The book has the straightforward style of the sailor and it gets to port all right upon such important questions as arise sharply in the experience of those who desire to pursue the chicken for the best success there is in it. It discusses the use of land, the construction of buildings, the arrangement of incubators and brooders, the care of fowls. We consider the work especially rich and suggestive along the lines of buildings and appliances of all kinds, and Captain Mitchell clearly shows how the poultryman can have his place shipshape in all respects. Engravings show designs and construction details of all kinds. The book can be ordered from the Pacific Rural Press at $1.25 per copy, postpaid.

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XX.	The Nectarine.
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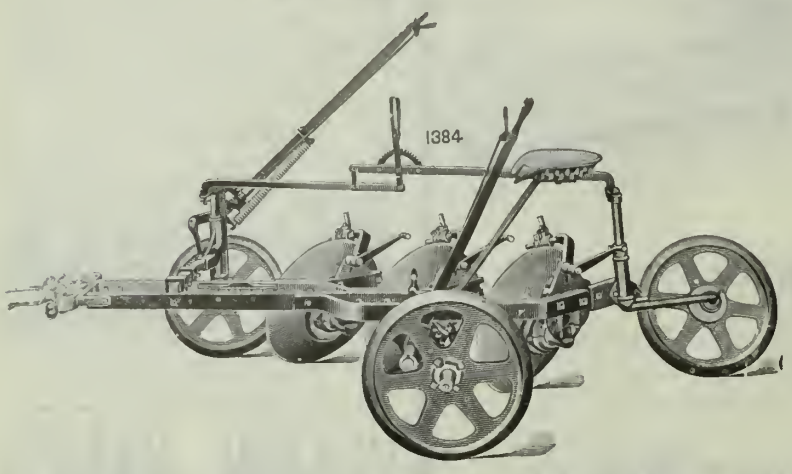
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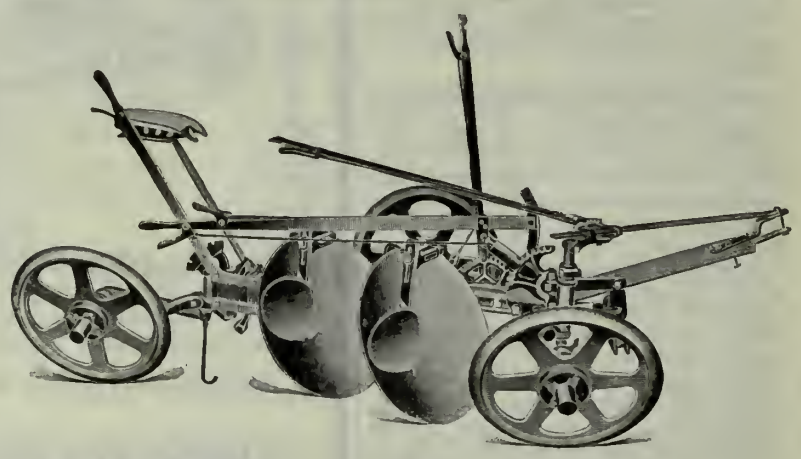
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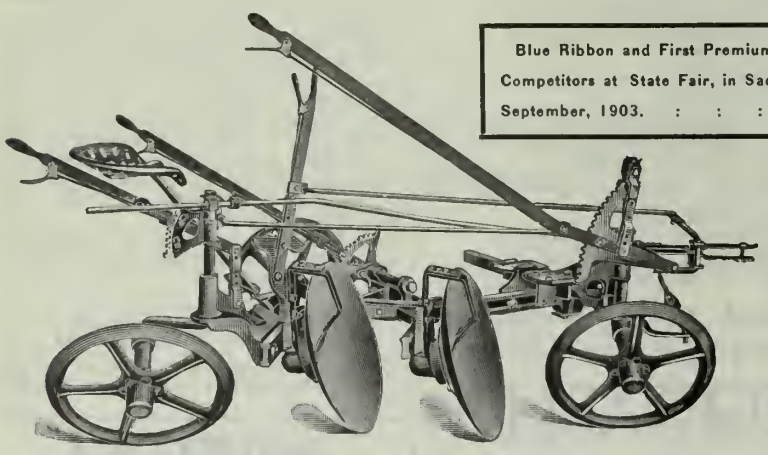


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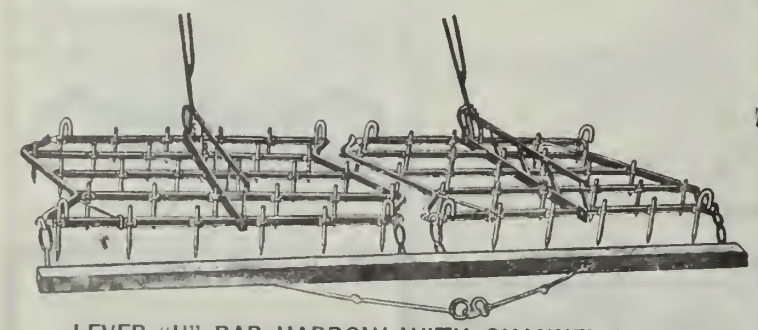


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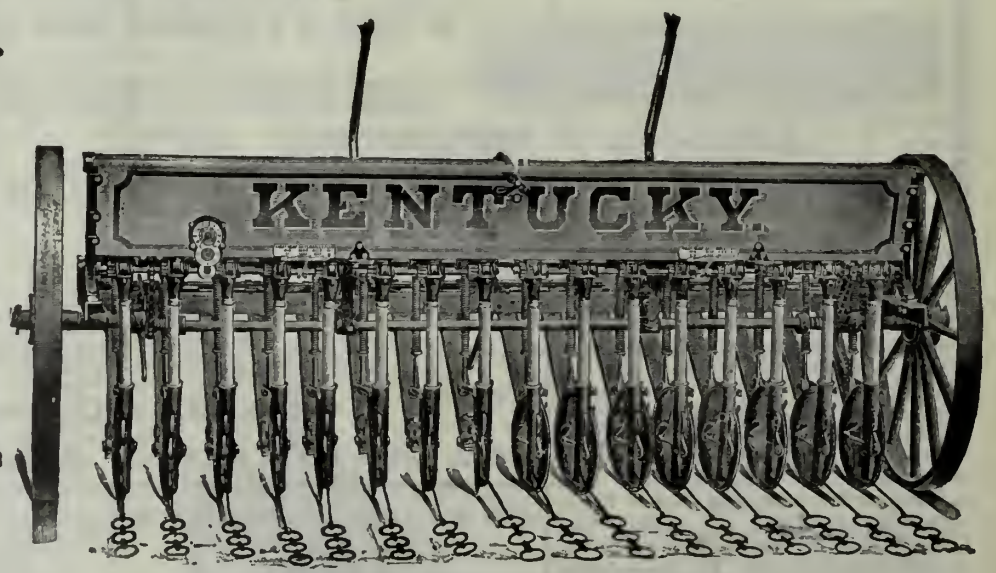
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Vol. LXVIII. No. 14. SAN FRANCISCO, SATURDAY, OCTOBER 1, 1904. THIRTY-FOURTH YEAR. Office, 330 Market St.

Activities in the Interior.

To reflect the activities which are now notable in the development of the interior foothill and mountain districts of California and the adjacent parts of Nevada, we select a group of pictures showing varied interests and significant for what they suggest as for that which they actually portray. For instance, the foothill industries are being advanced by the electric power which is readily available and foothill life is vastly improved by the grand illumination by electric lighting most cheaply secured. Dams for stream diversion for irrigation are old affairs of the mountains, but dams for electric generation are rather new and are multiplying rapidly even in sparsely settled regions. Swiftly running water is abundant in small streams and brooks, and its utilization in power and light, and sometimes both of these combinced with diversion for irrigation, is easy. The pretty little picture shows a dam in the North Fork of the American river in Placer county. The dam is built of stone and timber, is 35 feet high and it furnishes a constant water supply throughout the year for a 350 H. P. turbine wheel which impels a great variety of power and lighting appliances, and the owners count upon taking heat from it also by means of electric heaters. Power houses which serve a good temporary purpose in the California climate are also available, as one can judge from the view of the house connected with the dam just mentioned.



Dam on the North Fork, American River, Placer Co.



Power House on American River in Placer Co.



Irrigation Ditch Crossing a Mine at Sparks, Nevada

Another very suggestive relation of water to industrial activity is shown in the Nevada picture, where an irrigation ditch is seen crossing a mining claim. This fact is a curious illustration of the diversity of interests in the vicinity of Reno, as shown by the large irrigation ditch which runs over the surface of the mining claim, crossing it just in back of the mill, to supply the ranches beyond. The use of the Truckee river for irrigation through the great reclamation works now in construction will do much for the Reno district.



Hauling Timber in Calaveras County.



A Picturesque Scene in Tuolumne County.

It has been shown by Dr. Taylor, in a bulletin of the University of Nevada, published in 1902, that the whole of Nevada cannot possibly be reclaimed by irrigation. Nor can any very great fraction of it. The total possible water supply is too absolutely limited. The very small rainfall and the limited drainage areas are not enough to go around. But of the available water, the best supply is that from Lake Tahoe and the Truckee river, and that is in large part a contribution of the California watersheds to the advancement of a sister State.

The two large pictures are illustrative of foothill life in California. The splendid team with its haul of logs is quite characteristic of the Sierra region, while the other picture is illustrative of the picturesque topography of the country and of the light construction of buildings which is possible where the climate is gentle and considerate of both man and his undertakings. Both pictures are characteristic of the district of the California foothills, which is now especially alert because of the possibility of new railroad building and the opening of a new overland line passing also through new districts of Nevada, which need more direct communication with the metropolis of the coast. The rumor is that the well-conducted narrow-gauge line from Oakdale to the higher points in Tuolumne county is to be a part of a through line which it certainly deserves to be, and then our old friends in Tuolumne will be on a world's highway—a realization of which they have long dreamed.

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The Week.

We were sadly deceived by the signs last week when we indulged in the fancy that September would run through on a dry keel, and when one makes a mistake there may be some satisfaction in the thought that it was simply colossal in its dimensions. Not only was the close of the month not dry, but it was wetter than it has ever been before since weather records began in California. Probably, however, our prognostication did no one any harm, for the storm dropped so quickly that it reached the reader in advance of the false prophecy about it. The Weather Bureau reports that the September rainfall records have been broken in nearly all parts of the State. Naturally much harm was done and disappointment and losses have come upon many. The present quick turn to warm, dry air is, however, likely to make losses less than anticipated, and the early rain will be of some advantage in the way of a long plowing season and an early supply of green feed, wherever the rain was heavy enough to hold new growth along.

Wheat is somewhat firm, but there has been no advance in spot. Chicago has fluctuated considerably, but has made a net gain since last week. One ship has arrived under charter for wheat and barley at 22s 6d, and another made here at 21s 3d or 20 direct, while two barley charters are noted at 23s 9d. One cargo has cleared for London, about half barley and half prunes, with a total value of $250,000. Feed barley is slightly improved and is firm all around, except Chevalier, for which bids are too low to suit growers. Oats are firm for both seed and feed. Beans are unsettled—fine beans are firm, but there is so much doubt about the effects of the rains that buyers are waiting to see. Bran is in heavy supply but held well. Hay is unsettled, and weak for all but choice wheat, which is firm and may improve. Beef and mutton are firm, and hogs the same as last week. Butter is weak for all but the finest fresh, which is scarce. Fancy, new cheese is doing well; other kinds are abundant. The egg trade is running largely on cold storage; the finest fresh sell well, but much fresh stock is inferior. There is too much Eastern young stock arriving and reported larger than California young and preferred on that account; fine fat hens, ducks and geese sell better. Potatoes have improved under lighter receipts, which may increase with better weather. Onions are dull. Fresh fruits are becoming fewer and grapes sell at a wide range because of the rains. Oranges are quiet and lemons dull in the presence of cheap limes. Prunes are easier, except the largest and smallest sizes. Other dried fruits are firm and in good demand. Raisins are low and almonds scarce and stiff. Walnut prices are now fixed as noted in our Market Review. There is only a local demand for honey. Hops are reported largely sold and the balance firmly held. Marysville wool sales are reported elsewhere in this issue, but many private sales are made. There is nothing doing here except some shipping, as noted on another page.

It is possible that California may have an opportunity next year to welcome a national organization of unique character, namely, the association of those connected with the Weather Bureau of the United States Department of Agriculture, and other meteorologists of high standing. These intelligent people should certainly meet in California and see the country where ideal climates are made. The city of Sacramento transmitted a very taking invitation in the form of a fruit shower at the meeting recently held at the East, and anticipates securing the next meeting for this State. The choice of a meeting place is not made until six months prior to the congress, but the impression made by any particular locality during the sessions is likely to exert an influence in the committee's selection. Sacramento is believed to have as good a chance as any.

Our European advices speak continually of the serious drouth on the continent of Europe, which is to make several populous countries more than usually dependent upon food supplies from the western hemisphere. Throughout Germany the drouth continued practically unbroken throughout June and July until near the middle of August, when local rains, more or less copious, fell in the northern and central parts of the empire, which freshened pastures and meadows somewhat and gave some hope to the growers of sugar beets and late potatoes. The local fruits were scant, dairy products decreased sadly, and there is a prospect that cattle must be sacrificed for lack of forage. The United States Consul at Berlin writes that the food supply of the fatherland for the coming autumn and winter has been heavily reduced. Russia, Austria, Germany, Switzerland and France are all in a similar situation, and have little or no surplus for export.

In all the history of mankind there has never been a Farmers' Institute held in a Greek theater. In all the world there is only one Greek theater in which a Farmers' Institute can be held, because the only Greek theater which is in good repair is the one belonging to the University of California, and situated at Berkeley. The beautiful building is being continually used for the reproduction of old Greek plays, old English plays, old French plays, etc., and is certainly doing its best to vindicate its truth to antiquity, but it is also to do its duty to an affair which antiquity never dreamed of, and that is a popular assembly called in the interest of progressive agriculture. In order that the shock may not be too great to the antiquities involved, the Greek department of the University has come to the help of the agricultural department and will arrange for the opening session a Greek sacrificial procession, reproducing, as far as possible, the scene sculptured upon the frieze of the Parthenon. At the opening session there will be several addresses in modern style by distinguished people. This will occur on the afternoon of Tuesday, October 25. On that evening the Institute will begin its regular sessions and continue during Wednesday and Thursday with discussions of agricultural education, research, development, economics, etc. Speakers will be present from all parts of the State, and all interested in agricultural progress are cordially invited to participate in the proceedings. It is expected to be one of the most interesting and important agricultural assemblies ever held in the State, and is intended to serve as introductory to the short courses in agriculture, horticulture, viticulture, etc., which will open at the close of the Institute, October 28, and continue for six weeks. These courses are planned to give people, both young and old, who do not desire to spend much time or money upon the effort, the opportunity to secure instruction in a most condensed form.

QUERIES AND REPLIES.

Ginseng, Flowers and Herbs.

To the Editor:—I am thinking of returning to my former home at Oceanside, San Diego county, and am considering the idea of growing ginseng, flowers or herbs, for commercial use. Will you kindly inform me about the adaptability of the soil and climatic conditions of the region as to growing ginseng? Are flowers for commercial use grown as far south as that, and if so, what varieties would probably do the best and be most profitable? Is any other commercial use of them made other than by being manufactured into perfume? I understand some are shipped to the East. Are any herbs being successfully grown in California for commercial purposes, and if so what varieties; and is the soil of Oceanside to be adapted for growing such herbs.—Aspirant, New York.

We are sorry we cannot give you anything very encouraging. The conditions at Oceanside, as we know them from several visits, seem to us altogether unsuited for ginseng, still an enterprise is progressing in Ventura county, near the coast, where conditions are somewhat similar to yours, but we understand the undertaking is mainly to propagate plants to sell rather than to secure the commercial product of the roots. They are proceeding under cloth and aim to produce the moist air which this plant requires by ample irrigation. It is undetermined how far they can succeed. A few flowers are shipped occasionally from San Francisco by express to considerable distances eastward, perhaps to Chicago, but the chief of whatever trade there is in this line consists in material for Christmas decorations, the wild berries of the California holly, and certain various foliage is also used. There is little opportunity to send ordinary cut flowers into the populous places at the East, because the local production under glass, which has so wonderfully increased in the last few years, seems to be capable of producing anything that can be profitably sold at any time of the year. Flower growing for perfume manufacture is practically abandoned in California. Experiments have been made for the last twenty years here and there in southern California, but none of them have yielded profit. Even where the culture conditions seem to be favorable the absence of an available cheap labor supply for gathering the blossoms closes the door to profitable enterprise. As for medicinal and kitchen herbs, unquestionably many can be grown successfully in California, but the local demand is nothing to speak of and the Eastern demand is fully supplied by the production of the Shakers and other producers and marketers of dried herbs. It is, of course, possible that one can seek out some one or more things which can be exceptionally well grown here and then develop a market for them in distant parts, but this is a project involving much personal inquiry, many disappointments and finally is uncertain in profits. We are inclined to think that if you have water available at Oceanside crops of common vegetables and small fruits, grown out of season for the San Diego and Los Angeles markets, would be the surest way to secure some reward for time and effort.

An Ant Problem.

To the Editor:—I have about five acres under cultivation and for six months have been fighting the ants on the orange trees and in the hothouse, and trying to follow them up to their holes with carbon bisulphide, coal oil and sugar, bran and Paris green, but without success. A number of times they have come into the house, but have driven them out with corrosive sublimate. To my sorrow I discovered that the corrosive sublimate destroyed my plants. Can you refer me to some one who has made a study of destroying ants; also, if their presence in great quantities in potted plants and rose bushes will hurt the same? I have been told that their presence in the orange trees counteracts the work done by the Australian lady bug.—Desperation, Alameda county.

We judge from your interesting letter that you have done about all that one could do to reduce the ants and can add nothing to your category of treatments. Allow us to suggest, however, that possibly the reason why the ants are so persistent with you may be because the trees are infested with scale insects, which, as you know, produce an exudation exceedingly attractive to ants, and if this be the case the way to get rid of the ants is to proceed vigorously against the scale insects, and when the tree is clean of them the ants will disappear. The presence of the ants is not injurious to potted plants, rose bushes, etc. In that case they are also seeking

the honey dew of the aphis, scales, mealy bugs, etc., and so long as these plants harbor these insects there, too, the ants will congregate. The same treatment is suggested with reference to them as for the orange trees, and if this general supposition, which we are working on, is true, you should proceed by the use of sprays like the kerosene emulsion, and let the ant question settle itself. The Australian ladybug is only effective against one kind of scale, while there are many kinds affecting the orange tree. Unless, then, your trees have this particular kind of scale, called the cottony cushion scale, the Australian ladybug would not live upon it, and it may be to this fact, rather than to the presence of the ants, that you find your trees still attractive to the latter. We would be glad to see twigs of the tree and of the various plants you mention to ascertain if it is not true that your warfare should be against the scale rather than against the ants which are friendly to them.

Almond Growing.

To the Editor:—What printed matter is there available bearing upon the planting and cultivation of the almond, the soils adapted to it, etc.? Can you also give information regarding Contra Costa county as to soil formation, water, etc., and its adaptability for the culture of the almond tree?—Reader, Merced county.

There has been so much published in our "California Fruits" and in the Pacific Rural Press on the growth of the almond that it has seemed unnecessary to discuss its culture at length. It is grown very much as the peach is, except that continually cutting back is not practiced. The only pruning after the tree assumes its shape consists in keeping the head from becoming too thick; otherwise the culture of the almond is exactly like that of the peach. The light, sandy soils of the plains of Contra Costa county lying between Mount Diablo and the San Joaquin river are excellently situated for the production of almonds. The soil is light and deep and the almond root penetrates through it to great depth in search of moisture. That district also seems to be less frosty than the bottoms of some of the valleys of the adjacent foothills, because of the various air currents which are continually in circulation. We know of no place in the State where the almond bears more regularly, suffering less from frost, and is on the whole more productive. The land upon which the almonds are grown is, on account of its condition, lightness and non-retentive character, not suited for the growth of grain, and can often be bought at very reasonable prices.

The Sex Question in Grafting Stock.

To the Editor:—Is any attention given to the sex of the stock when grafting is to be done on dicœcious trees? Are there any results reported from experiments with the common pepper tree along this line?—Student, San Francisco.

We are not aware of any experiments in the grafting or budding of the pepper tree and we have never seen any plant except a seedling. We have been informed that in the propagation of the pistachio, which is also dicœcious, that it is the custom in the south of Europe to graft the vera species upon the wild terebinthus wherever the latter is found naturally growing, and have never seen any intimation that a selection of the stock according to sex is made, although, of course, most of the scions would be taken from bearing (pistillate) trees. There are so few dicœcious trees that are involved in the horticulture of the temperate zone that our horticultural observation of their behavior is very narrow. Again, whatever grafting in this line is done is certainly undertaken upon seedling stocks in the nursery rows without waiting for them to attain the maturity necessary for the manifestation of sex characteristics. Our impression is, therefore, that our horticultural practices will not be found to disclose any data of moment to you. If you had time to pursue the inquiry throughout the botanical gardens at Jamaica and Ceylon better information might be had, as in tropical horticulture they have to deal more widely with the dicœcious growths.

Canning Pears for New Zealand.

To the Editor:—I have just set out a pear orchard and among other varieties have planted 200 Kieffer and 600 P. Barry. The Bartlett is being planted very largely over New Zealand, so I am inclined to later varieties if they can be successfully canned, as the market will not be so full when they come on and I can always rebud if the varieties are wrong. We are only just starting in the canning business and believe we have an opening before us.—W. S. Davidson, Havelock, North New Zealand.

Kieffer is very little grown in California and has little commercial standing. A few are sometimes shipped from the mountain districts where the variety seems to develop much better quality that in the valley or nearer the coast—in fact, we have seen handsome fruit grown near the coast, in the upper part of the State, which hardly had flavor enough to be recognized as pears, if eaten in the dark. Then we have hitherto been able to grow such an abundance of higher class pears that we have had little use for the Kieffer. Perhaps if we have to fight the pear blight to a finish we may have to rely upon the inferior blood of the Asiatic pears, but we understand that the Kieffer has not proved blight resistant at the East, as it was expected to. There is much along this line still to be worked out here. As for the P. Barry, it is a good winter variety and is gaining in favor in some parts of the State, but it is not largely used in canning, as the pear product is made with the Bartlett and a few other earlier varieties. There may be some change in this line in the future, as the Bartletts are hard hit by the blight.

Keeping Chestnuts.

To the Editor:—I have some chestnuts which I would like, after picking, to pack in some substance that they will not rot and mildew. Will you kindly intimate to me some method whereby I can keep the chestnuts through the winter.—Suburban, San Mateo county.

You do not state for what purpose you wish to keep chestnuts. If it is for growing seedlings, they should be kept in moist sand until the ground is well saturated from the rains and then can be planted, although if the soil is likely to be rather wet and cold better results can probably be had by keeping the nuts in the sand until the ground begins to warm up in February. Care should be taken to see that the box or sand bed in which the seed are placed has adequate drainage so that there shall be no standing water. If you desire to keep the nuts from spoiling until they can be eaten later in the season, the common method is to put them in a suitable receptacle and pour on boiling water until the nuts are covered. Then stir from time to time and allowing them to remain there fifteen to twenty minutes. After this they are spread out until perfectly dry upon the surface and then stored in boxes or barrels. This prevents the kernel from becoming hard and horny and also, from the killing of the germs by the boiling water, makes them less liable to mildew.

Pea Blight.

To the Editor:—How can I cure blight on peas?—Reader, Los Angeles county.

If it is the ordinary blight which is a form of mildew, it can be held in check, to a certain extent at least, by the use of sulphur, and yet when the air becomes too dry, or the soil moisture too scant for the vigorous growth of the plant no amount of sulphur seems to be capable of overcoming it. The pea thoroughly enjoys the moisture and coolness of the winter season in places where, of course, the temperature does not fall low enough to arrest its growth. In almost all situations, particularly in the interior, it spindles and blights distressingly if it is sown too late and forced to extend too far into the dry season for the completion of its growth. In drier, warmer places, therefore, the pea should be sown early and allow it to do its chief work during the rainy season. On moist lands or irrigated lands it can be carried into the dry season and is to a considerable extent resistant to mildew, providing growing conditions are favorable. We cannot, therefore, give you a specific for the disease which will be under all conditions effective. It must be determined first that the plant has a fair show for growth in the soil cultivation and the moisture which is available.

Those "Jumping Seeds."

To the Editor:—As you want to know, in regard to the "jumping seeds," or oak leaf galls, whether or not they had been sent to me from a distance, I will say I picked up the leaf covered with the galls under a tree about 1 mile from Martinez, or one-third of a mile from Muir Station. I knew from experience in Germany that they were oak leaf galls and not jumping seeds, and I showed them to different parties before I mailed the letter to you. They laughed at me; but I mentioned in my letter that they were little balls "as old as oak trees." I was twenty-one years with the late Dr. J. Strentzel, and had almost every day opportunity to see things in nature. The first time I noticed these galls was in 1872 in the Strentzel hills, near Martinez, and then again in 1877 and 1879. This year there seems to be a full crop of the balls. It is not a sure crop every year, and only on very few trees, and I would encourage nobody to go into that kind of seed business, as there are too many off years.—Chas. Baumgart, Martinez.

This gall insect is evidently plentiful in the coast country as well as the Sierra region. Since your sending them to us we have had them from the hills of the Livermore district. It is evidently a good year for them.

WEATHER AND CROPS.

Report of the U. S. Weather Service for Week Ending September 26, 1904.

Alexander McAdie, Forecast Official and Section Director.

Sacramento Valley.

Cold, cloudy weather prevailed most of the week, with thunderstorms and abnormally heavy rainfall during the latter part. The precipitation for the storm averaged fully 3 inches in the valleys and probably over 5 inches in the foothills and mountains. There was a heavy fall of snow in the high Sierra. Although ample warnings were given, the rain caused considerable damage to fruit and raisins on trays, grapes on the vines, unprotected grain and hay, and practically ruined dry feed. The first crop of grapes was nearly all gathered before the storm, but the second was seriously injured. Almond harvest is completed. The rain has saturated the soil and plowing and seeding will commence at once. Green feed will probably make a good start.

Coast and Bay Sections.

Warm, clear weather prevailed at the beginning of the week, followed by high winds, thunderstorms and heavy rain. The precipitation ranged from 1 to 5 inches and was heaviest in the central and northern districts, where all previous September records were broken. At San Francisco the rainfall for the storm was 5.07 inches, and nearly equal amounts fell in all the immediate vicinity. Grapes on vines, tomatoes, drying fruits, beans, unprotected grain in sacks and baled hay were considerably damaged and dry feed was ruined. Hops and beans ere nearly all harvested before the rain, but a portion of the bean crop was unthrashed and received some damage. The soil is thoroughly saturated in most places and plowing will commence soon.

San Joaquin Valley.

The first part of the week was clear and favorable for fruit drying and raisin making, and the latter part cloudy, with heavy rains and numerous thunderstorms. Good pro ress had been made in drying prunes and raisins until the wet weather began. Great damage has been done to grapes on the vines, beans, hay not under cover, and unthrashed wheat and barley. Drying fruit and raisins on the trays and stacked or covered were probably injured to some extent, but this cannot be determined until later. Dry feed was greatly damaged, and unless there is favorable weather for the growth of new feed stock will suffer. Timely warning of the approach of the storm was given, and generally needed by raisin makers and fruit dryers.

Southern California.

Cooler and partly cloudy weather prevailed during the week, with heavy rain in Santa Barbara and Ventura counties and light showers in other sections. It is reported that over 6 inches of rain fell in Santa Barbara and vicinity during the storm, but the precipitation was much lighter at Santa Maria. Beans were considerably damaged, as only a small part of the crop had been thrashed. No material damage was done in other sections, as timely warnings were given. Raisin making is progressing and shipping has commenced. Mountain apples are plentiful. Oranges will be a lighter crop than last season's. Barley planting has commenced at Anaheim.

Los Angeles Summary.—Heavy rain in the northern section seriously damaged beans. Blackeyes did not suffer as much as Limas, as they are nearly all harvested. Limas are cut, but still in the field. Rain light in southern section; no appreciable effect except to assist irrigation.

Rainfall and Temperature.

The following data for the week ending 5 A. M. Wednesday, September 28, 1904, are from official sources and are furnished by the United States Weather Bureau for the Pacific Rural Press:

California Stations.	Total Rainfall for the Week	Total Seasonal Rainfall to Date	Total Seasonal Rainfall Last Year to Same Date	Average Seasonal Rainfall to Date	Maximum Temperature for the week	Minimum Temperature for the week
Eureka	1.33	2 52	.85	1.54	64	46
Red Bluff	5.12	5.22	.00	.69	80	52
Sacramento	3.60	3.66	.00	.31	74	54
San Francisco	5.07	5 15	T	.33	68	50
Fresno	1.76	1 76	.00	.30	82	52
Independence	.31	.31	T	.26	76	44
San Luis Obispo	3.46	3.46	T	.34	72	54
Los Angeles	28	44	43	.12	76	52
San Diego	T	T	T	.15	76	58
Yuma	.00	.81	.05	.66	96	64

THE GARDEN.

Hints for Home Planting.

From a Paper by Mrs. Minnie Eshelman Sherman of Fresno, at the University Farmers' Institute at Imperial, San Diego County.

The entrance to a ranch or the front yard of the suburban residences all may be made to show character. The house surrounded by high hedges looks prison-like and not inviting, while the lawn that slopes gently to the sidewalk without even a barrier is full of loving trust in the world. The Australians that visit California express great surprise, saying in their country the flowers would be picked and the plants wantonly destroyed, so much for heredities. The country home gives room for fine avenues, and a large ranch has miles of roads for beautifying. The main entrance avenues should be given the beauty trees, the palms, and camphor and ornamental trees should be planted — one variety is usually best, personally the palm with its brown trunk and gray beard is the most attractive as the emblem of the immortal soul of man now rising above the mortal body.

A Unique Avenue.—One of the most beautiful avenues is on the Eisen vineyard and is of tall Lombardy poplars, with a red oleander between each tree, while overhead are trained grapevines. The oleanders are full of bloom in the summer and the aroma makes the air heavy with an oriental sweetness. In the autumn there comes the scent of grapes and the purple, red and white clusters strung overhead on the brown stems, with the tinted leaves, are tone pictures. This avenue, made of the simplest and cheapest growths of the country, is one of the most successful in our neighborhood.

If the entrance avenues curve they are more pleasing. If this cannot be arranged, then do not have the house set squarely at the road like a hospital or barracks. Placed to one side with a garden around it is more home-like.

It is better for a home garden to be individual rather than laid out by a professional. The gardener with unlimited means allows of the employment of a landscape gardener of unique artistic ability. Grounds around a country home that have two or three gardeners and are kept like hotel grounds always seem to lack soul. One looks naturally to see signs, "Please keep off the grass," "Do not pluck the flowers."

A Bermuda Lawn.—The center of attraction in the garden is the lawn, and with the despised Bermuda grass any one can make one — one the babies can roll on, the older children play tag on, and the family all have their rocking chair out there without fear of spoiling the grass, indeed, this grass rather enjoys being abused, for it gives it a chance to show how it can rise to meet hardship.

Home Made Pots.—The piazzas and the steps of the house should be filled with plants, both ornamental and blossoming. The cost of vases and jardinieres deter many from collecting plants, for they do not want to have tomato cans filled with red geraniums, yet how pathetic is this longing for suggestions for flowers. The careful housewife, by watching her chances, can soon have a collection of suitable jars and tubs.

I take old milk cans, from ten gallons down to the two-gallon, the tops and handles are removed, all painted white and sanded with coarse sand from the wash—made into granite. The syrup cans, lurid with varnish, can be painted and used, while the Japanese tubs and Chinese jars are always available. The ginger jars, filled with earth and planted with vines — as Wandering Jew, Cypress and Balloon vines, are swung on bamboo poles in sets of six or ten and several rows deep, used on a side piazza make a pleasing screen.

Roses.—In planting the garden of roses — rows should be long for the flower beds, for the plow and harrow are used to cultivate. Directly around the house is not the best place for the roses, for they do not succeed as well there as in the open field; they need plenty of air to escape mildew. During their ragged season they have a chance to be out of sight. The roses in bloom on the fences are simply to screen away the view of the chicken houses, and they give a wealth of bloom. From the way they grow without much care has come to us the idea of planting these common roses by the thousands along the road back of the ranch, and by using wire netting from tree to tree making a continuous fence. We have the roses ready and hope our good man can be enthused enough to take care of the fences, but if he does not the roses will be planted anyway and be ready for next year. The Shasta daisy that Mr. Burbank gave us a few years ago has proven a treasure to us, it stands hard treatment and blooms on. The new Shasta daisy, Alaska, California and Westralia are enormous flowers. In a Fresno garden are measures of several, that, lying lightly on the rule, were 5 inches across, when pressed down were 5½. There were dozens of them of this size and all have received only garden care.

The yellow garden was a great success this year with the marigolds, sunflowers and goldenglow. The cannas, of which over 1000 new bulbs were planted last year, have more than paid us, for the new varieties are, many of them, as beautiful as orchids.

The chrysanthemum beds have had to be sprayed several times with ivory soap and water to kill the black fleas that infest them. We have about 2000 varieties, but will not have any show flowers. I have not been able to disbud them, but I feel sure had I been there they would have been left alone, for personally I prefer the medium-sized flower.

Simplicity in the garden is becoming more pronounced; yet it is to be hoped we will not run that too far. When I see and read of the struggles of some one in fashionable life I am thankful I live in California and am free, for I can be simpler in my life without offense to others.

THE FIELD.

Alfalfa Meal.

Our readers frequently ask about the grinding of alfalfa and whether it is possible to establish ranch outfits for grinding for home use. It seems that manufacturing alfalfa into a proprietary stock food is being done on a larger scale in the newer alfalfa regions of the central west than in this State, and while we do not know just how the work undertaken here compares with that east of the Rockies the details of the latter are certainly interesting.

Prof. H. M. Cottrell, formerly of the Kansas Agricultural College, and a man of high repute, is now working for a large alfalfa meal outfit at Omaha, and in answer to questions from the Kansas Farmer, he gives the following information:

The alfalfa meal business is as yet in its infancy and it is a question yet whether it is more profitable to market alfalfa as meal or as hay.

For a person who has but a few hundred acres I would say that it would not pay to go to the expense of grinding the alfalfa. In order to grind the hay it must first be kiln-dried, as hay ordinarily cured contains too much moisture in the stems to grind into a meal readily. Even after kiln-drying it takes an immense power to operate the machinery. Again, it does not pay to grind any but first quality hay that has been gathered green enough to retain the leaves, thus only a part of the few hundred acres could be utilized.

At present there are no factories that I know of which make machinery especially for this purpose, and the mill must be one of exceedingly adequate qualities to do the work required.

The Alfalfa Meal Co. of Omaha, Neb., for whom I am working at present, so far has been quite successful in the manufacture of alfalfa meal and alfalfa products. It, however, has over 20,000 acres of alfalfa to draw first quality goods from, a special factory and apparatus for drying, grinding, mixing and handling, and thus far everything looks bright for the future success of this business.

It is my opinion that a person with but several hundred acres can hardly go to the expense necessary for operating such a business and be successful.

Our alfalfa product consists of 75% alfalfa meal and 25% sugar beet molasses. The alfalfa used for this product is none but first quality, which shows from 16% to 18% protein. This is mixed with pure sugar beet molasses which contains 50% pure sugar, which is digested at once by the animal. The product of this happy combination is called "Alfalmo," which contains 15% to 17% protein and 50% carbohydrates and fat. We have then, in the alfalfa, first, the best milk, bone, muscle, egg and flesh producer known; second, in the molasses, one of the most palatable, fat forming foods known. This forms a product which pleases the palates of horses, cattle—both dairy and beef—sheep, hogs and chickens. It is put up in 100-pound sacks and retailed at $22 per ton, or $1.50 per single hundredweight.

It is being fed successfully at Ames, Iowa, at the Agricultural College, to show hogs, lambs, chickens, horses and Belgian hares. In Omaha, hardly a stable in the city but would gladly recommend alfalmo. At Des Moines, during the Iowa State Fair, 70,000 pounds were placed in the hands of the best feeders in the land, and as yet not an unfavorable report has been received. The salesmen now representing this company have been sending in orders at the rate of over 13,000 pounds per day. This indicates what practical feeders think of it. Alfalmo not only exceeds bran and shorts from a chemical standpoint, but practically is more appetizing, succulent, and furnishes in better form the ideal feed to balance the excessive corn ration.

Thoughts on Handling Alfalfa Hay.

To the Editor:—If ground alfalfa is as much better than whole hay as flour is better than whole wheat, then we must be coming to an interesting subject. I have long wished and wondered if something that way would not some time be done. I have raised several crops of alfalfa seed and the straw is pretty well ground by threshing, and cattle are fond of the powdered part. The butts of the stems are broken up into short pieces, and owing, I suppose, to the overripeness of it as hay, the stems are not very well liked, but much of it gets ground—or, rather, powdered—and stock are very fond of it. Again, a thin coat of this fine stuff makes a fine waterproof cover for stacks.

But my thoughts were these: You know, a large farmer can have a derrick and build tall stacks, while the small farmer with his place fenced off into numerous fields can't reasonably get the hay to a derrick. The nearest thing I ever saw to a silo cutter was a picture of one, which showed an elevator or carrier, or perhaps a pipe to blow the cut-up corn into the silo. And so I have thought if ever it was tried as a hay cutter and stacker it would take like wildfire; for it seemed to me it would be the solving of a number of problems. First, the small farmer could have something better than a derrick. The team that drew the hay to the cutter could be hitched to the horse power cutter and elevator. The bulk would, perhaps, be reduced one-half or more. The stack would turn water and could be fed in mangers to cattle, and doubtless be greatly improved as a food.

H. E. Dye.

Visalia.

The suggestion is perfectly feasible so far as the cutting and blowing of the fine stuff to place is concerned, but whether the outfit would cost too much to make or operate to make it popular is another question which can only be told by actual use.

SHEEP AND WOOL.

California Angora Goat Breeders' Association.

Official report prepared for publication in the Pacific Rural Press.

The nineteenth annual meeting of the California Angora Goat Breeders' Association was held in Sacramento Thursday, September 1st, President C. P. Bailey in the chair. After the usual business routine Mr. Bailey reviewed some of the work the Association has accomplished in the past. He read in part the proceedings of the first meeting, and as they may be of some interest to goat breeders of the present day, we give them. "On Thursday, Sept. 17, 1885, at Pioneer Hall, Sacramento, a number of Angora goat breeders attending the State Fair assembled to consider matters of importance to the goat interest. After organization the following resolutions were offered and adopted:

Whereas, Angora goat breeding is now a well established business, and there is an increasing demand for domestic mohair by Eastern manufacturers; and

Whereas, The climate of a great portion of our State, together with the natural forage in the rough mountain districts, is furnishing the best quality of fine, lustrous, long-stapled mohair at less expense than pastures suitable for any other stock that can be found in the State; therefore,

Resolved, That the breeding of the Angora mohair goat is an addition to the resources of the State, and a profitable employment to those engaged therein, and should be encouraged in all localities where the industry is practicable.

Resolved, That breeders associate themselves for the purpose of gathering and giving information about the numbers of mohair producing animals in their flocks, the best mode of handling them, shearing, packing and marketing mohair, also the raising and management of kids, and highest percentage of kids reared up.

Resolved, That the rate of freight heretofore charged by the railroads to Eastern points is discrimination against mohair, and that mohair should have the same rates as wool.

Resolved, That the Pacific Rural Press be the goat breeders' medium for publication of all matters of interest.

C. W. Schleiffer was chairman. Mr. Bailey stated that for the past nineteen years he had been trying to get the wool rate for mohair, and although he had succeeded in getting a much lower rate than that which prevailed years ago, yet he had not been able to secure the wool rate. "The second annual meeting of the Association was called to order by myself in the absence of the chairman," said Mr. Bailey, "in Sacramento, Sept. 16, 1886. On motion, a constitution for this Association was presented and adopted and signed by the members present, and it was further decided that the secretary should enter the names and postoffice addresses of new members paying him the fee of $2.50. The officers elected at that meeting were: President, C. P. Bailey of San Jose; vice-president, T. H. Harland of Venado; secretary and treasurer, Julius Weyand."

We have continued to hold annual meetings ever since and we have the right to feel proud that we are the oldest Angora goat breeders' association in America.

New Importations.—Mr. Bailey reported that the four goats which his firm had recently secured from Asia Minor, through the personal energy of Dr. W. C. Bailey, had done well and that their fleeces were finer and inclined to be of a more ringletty style than any other of the goats secured at former importations. Although the expense of the importation was considerable, the results justified the experiment. "We have re-

cently secured permission from the Department of Agriculture at Washington," said Mr. Bailey, "to import twenty head from South Africa and we expect these to arrive any time now. The goats have been selected by one of the oldest breeders in South Africa and we have no doubt that we will receive excellent specimens. Our South African bucks, Capetown and Pasha, have been good ones and we hope to get even better ones in this importation."

Growers' Reports.—Mr. W. W. Wright gave an interesting review of the Angora conditions in Merced county: "The season has been very dry," said Mr. Wright, "but my goats have done fairly well. I sold my mohair at satisfactory prices and during the past year I have sold over 2000 head of does with kids. Although the mohair market is a little unsettled, I look for a fairly good season next year and if we get a good wetting this winter I will have fine feed."

Mr. Wright also described in detail a new baling press which he had constructed and showed a report from an Eastern concern saying that the mohair arrived in even finer condition than the far-famed Turkish bales. He thought all mohair growers should have a mohair press.

Mr. Dixon and Mr. Cowell reported their goats in fine condition, and stated that they had a local market for their wethers at $4 per head. The buyer came to the ranch and paid for the goats there. Considering the fact that the mutton market is so low this was considered a very satisfactory arrangement.

After a general discussion and the election of officers, the meeting adjourned to convene next year.

Solano Sheepmen's Association.

The annual meeting of the Solano County Sheepmen's Association was held in Suisun last week. According to a report in the Sacramento Bee, the following sheep raisers were in attendance: John Church of Dixon, Z. Bithell of Oakland, Mr. Miller of Colusa, Clem Hartley of Vacaville, H. R. Timm of Rio Vista, W. H. Fry, T. A. Kilkenny and A. B. Parker of Elmira, and Jos. H. Hoyt of Suisun. Mr. Hoyt is deputy sheep inspector for the county.

The Association pays a bounty of $25 for killing old coyotes and $5 for pups. Since the organization of the Association last spring thirty-three claims for bounty have been paid.

The report of the treasurer showed receipts amounting to $742.20; expenditures, $430.75; balance on hand, $311.45.

A new board of directors was chosen, as follows: Chas. Clausen, Tremont; T. A. Kilkenny, Elmira; E. L. Stewart, Montezuma; John Church, Dixon; W. B. Pressley, Rio Vista; C. E. Barnhart, Binghamton; Julian B. Hoyt, Denverton; C. A. Morrill, Suisun, and H. R. Time, Maine Prairie.

W. H. Fry addressed the sheepmen in advocacy of the proposition of doing away with the office of deputy sheep inspector in the county, or, if that was not possible, in limiting his duty to the inspection of sheep for shipment and inspection on report being made to him of disease. Mr. Hoyt explained the law in relation to his duties, and assured the sheepmen that he was making his charge as light as he possibly could. He said that after the first two years only one inspector is required by law. That will decrease the expense to the sheepmen one-half after the first of next January. If sheep have recently been inspected and found to be clean and free from disease it is also his custom to grant permits for shipment on the previous inspection, thereby saving the expense of another inspection. Mr. Hoyt has been informed by District Attorney Gregory that he can legally do this. He said his job was no sinecure and that there was no money in it, considering the time and expense required.

There not being a quorum of directors present, it was impossible to hold a meeting and elect officers for the coming year. A meeting for that purpose will be called by President H. R. Timm in the near future.

FRUIT MARKETING.

Marketing Lemons.

By E. S. Vascher at the University Farmers' Institute at El Cajon.

I would like to call your attention to a phase of the lemon industry, upon which we cannot consult too often, or too thoroughly—that is the wasteful and ruinous decay of our fruit, and the remedy.

The decay is practically of two kinds and comes from two causes, apparently, more or less clearly defined — constitutional weakness; second, decay caused by improper picking and handling. I take up the last cause first, because the remedy is easy. We have all heard that lemons should be handled like eggs—and not boiled eggs at that. Now while we know that as a maxim, do we realize what it means, and do we do it? If you think you do, let me suggest an experiment: Take your picking bag and go out to your trees; ask your good wife to go along also; pick your bag full with your usual care and when done place in the field box in the customary way. This done, ask your good wife to go back to the house and bring out a goodly supply of eggs; if the eggs are selling at 25 cents a dozen at the store, it will make the experiment much more interesting. Now while she is meekly obeying, take the eggs from her one by one, and making believe they are lemons drop them into your bag in the usual form; when this is done—keep on thinking they are lemons and put into the field box, with no more than your usual care with lemons. Now go over the eggs one by one and examine carefully. I would rather be your wife than you—it will open your eyes so wide they will hurt.

You will say it will cost much more to pick this way, and will it pay? I say emphatically, it will. Every egg you drop bruises itself and one or two more that it strikes. Do the picking your own way, pick in a basket or in a sack, or directly into a field box, do it the way you prefer, but the longer you can keep thinking what you are picking are eggs, the smaller will be your loss from decay.

I remember the story of a man, who, after many years spent in the city, went back to the old homestead for a much needed rest, and among other things he wanted to do as he used to do when a boy, hunted eggs in the old barn and straightway forgot his find and his Prince Albert coat with behind pockets, until he sat down for dinner and remembered—alas! But I have seen lemon pickers sit on their bag full of lemons while fishing for fruit under the lower branches. What would be the result if they were eggs? We have seen the fruit picked carefully to size and yet dropped a distance of all the way from 6 inches to 1 foot into the bag. Would an egg stand this, think you? A man may feel sure that he is extremely cautious and careful in picking, yet destroy the effects of his care in emptying his receptacle carelessly into the field box. Always remember—Eggs!

The Other Decay.—Now about the constitutional decay. A lemon may be handled ever so carefully and yet decay—not the blue mold that comes from outside bruises, but that loathsome, nasty, messy muss that sticks closer than a brother to box and fingers and taints the pure air of the valley with the vile smell, spoiling its better fellow lemons because of its nasty contact; spoiling our temper and flattening our purses until they are thin as the lean kine of Pharaoh's time. The decay that comes from careless handling will not show under a week or two, but it is sure to show up in form of blue moldy remains, but where the cause is constitutional weakness, the decay may be longer showing up, but it is there you can detect it at once, and you need neither microscope or X-ray. Cut your lemon open lengthwise of the pith or core or rag, that woody fiber running lengthwise of the fruit, is large perhaps or hollow, you have a lemon that is constitutional weakness; while green it yields to the pressure of your finger; while curing it shrinks all the way from 15% to 30% of its normal size, and if it should stand the weary weeks of curing-house confinement it gets more and more loose jointed after it is packed. It passes through a rapid decline while on its three or four weeks' travel, and arrives in the East in about as demoralized condition as the Russians are in Manchuria. Now what is the cause? I think that it may be among one, two or more causes, perhaps to all: That of insufficient water, irregularity in its application, or frost. Whatever may be the cause, it apparently partially destroys the sap channels of the stem through which nature forces the life developing fluid.

You have now my idea of the cause which causes the inner and outer decay. So far so good. Now care for your trees with the greatest care in all details. Pack your fruit ever so carefully, and unless you have a man who can handle your lemons as a mother handles her first born baby—turn your horses around and dump your fruit (so tenderly picked) into the first convenient field; it will be more satisfactory and more profitable.

To conclude, I believe that our remedy for the evils of decay are these: More water, better applied, more cultivation. Handle your lemons throughout like eggs. Pick your lemons the first week in each month. Pick them systematically. Pick them to size, all green ones. Pick all yellow ones. Haul to the careful man at the packing house, as soon as picked, who will see that the fruit is clean—yellow sorted from green, choice from fancy; who will throw away standards, put each day's picking by itself under separate tents, and do all with that same care you give the picking. Don't forget eggs. I believe if these thoughts are carried out heartily that we would make a profit where we now make a loss.

Exports of American Fruits.

We gave last week an interesting report upon the American fruit industries just prepared by the statistical division of the United States Department of Agriculture. The following, which discusses our fruit exports, is the conclusion of the matter:

The export trade in fruits has increased enormously within recent years. From a value of $4,856,517 in 1894–1895 this trade increased to $11,486,172 in 1899–1900, declined to $8,415,103 in 1901-1902, and again increased to $20,348,299 in 1903–1904.

American fruits are now known in the markets of many of the principal countries of the world. The varieties most abundantly found on foreign markets are apples and prunes. In 1903–1904 there was shipped from the United States to foreign countries $8,237,894 worth of apples (including both fresh and dried), against $6,760,436 worth in the previous year, and of prunes during the respective years $3,410,497 and $3,512,507 worth. In point of value apples constitute over one-third, and apples and prunes, combined, over one-half of the fruit sent from the United States to foreign consumers. It is thus seen that these two products occupy in value a position in the export fruit trade corresponding closely to that filled by bananas and lemons among imported fruits.

The bulk of the exports of apples and prunes is consigned to countries of northwestern Europe. Of the ripe apples exported, from 80% to 90% goes to the United Kingdom. Of the dried apples, about 50% is shipped to Germany, and the bulk of the remainder, in their order as purchasers, to Holland, France and the United Kingdom. Germany is also the principal customer for prunes; Holland furnishes the next most important market, and large quantities are also shipped to the United Kingdom, Belgium and France. Canada is also an important customer for this fruit.

As to the other fruits exported from the United States, statements of varieties are obtainable in no great detail. About $4,000,000 worth was shipped out in each of the last two years under the general descriptions of "fruits ripe or dried." These, it is known, consist of many kinds, and the utilization of cold storage in transportation has in recent years had the effect of constantly increasing the quantities and diversifying the varieties.

The only other raw fruits besides apples and prunes, of which there are specific records of exports from the United States, are oranges, apricots and raisins. Of these, there were exported in the fiscal year 1903–1904 quantities valued at $1,629,506, of which oranges constituted about 45%, apricots 37%, and raisins about 18%.

Below will be found a statement of the exports of fruit from the United States for the years ended June 30, 1903 and 1904:

EXPORTS OF FRUIT FROM THE UNITED STATES.

Fruit.	1904.		1903.	
	Quantities.	Value.	Quantities.	Value.
Apples (bbls.)	2,018,262	$ 5,446,473	1,656,129	$ 4,381,801
Apples, dried (lbs.)	49,301,665	2,791,421	39,646,297	2,378,635
Apricots (lbs.)	7,205,686	608,511	9,190,081	713,887
Oranges		739,593		465,397
Prunes (lbs.)	73,146,214	3,410,497	66,385,215	3,512,507
Raisins (lbs.)	4,020,428	281,402	4,280,028	284,530
All Other Ripe or Dried		4,317,910		4,215,034
Preserved Fruits:				
Canned		2,637,002		1,739,571
All Other		115,490		66,757
Totals		$20,348,299		$17.758,119

Girls as Fruit and Hop Pickers.

The newspapers report that in the Strathmore district of Perthshire, Scotland, fruit growers have dispensed almost entirely with tramp labor, having engaged girls from Edinburgh, Glasgow and Dundee as pickers. These girls, engaged ordinarily in indoor occupations in those cities as factory hands, dressmakers, etc., welcome the open air employment as a health-giving holiday for which they are paid. The papers say that the girls are well looked after, comfortable board and lodgings being provided for them by the farms on which they are employed at 6s ($1.46) a week. Attention is not called to the fact that the employment of these girls as extra hands at fruit picking times must disorganize the work in the factories where they have regular employment. In the chain, pulley block and anchor district, near Birmingham, there is annually very great embarrassment to the ironmasters, owing to the fact that the men, women and children employed in their works abandon them temporarily each year at hop picking times, and I am told that during the hop picking season in Kent some of the London board schools are practically emptied, whole families migrating to the country, where they encamp in barns and sheds and under hedges until the hops are gathered in.—Marshal Halstead, Consul, Birmingham, Eng.

Almeria Grapes of Spain.

From United States Consular Agent A. E. Carleton, Almeria, Spain.

The exportation of the white grape of Almeria commences the last of August, although shipments do not become of any importance until the middle of September.

The weather conditions have been favorable this year and a big crop is anticipated. The grapes are at present in excellent condition and bid fair to exceed those of last year in size and quality. The total crop is estimated at 2,000,000 barrels.

The leading grape exporters of this city and the province have just effected the organization of a

society, the object of which is to control and regulate, so far as possible, the shipment of the white grape. The disastrous experience of last year and the causes thereof were so obvious that a strenuous effort will be made this season to remedy the more serious evils, and the results are being watched with considerable interest.

The chief points in the by-laws of the association may be summarized as follows:

1. All ships must sail direct to their respeetive destinations.
2. The maximum number of barrels that any one boat can load are: For Bristol, Newcastle, Cardiff and Manchester, 3000; for Hull, 5000; for London and Glasgow, 8000; for Liverpool, 10,000; for Hamburg, 8000, and for New York, 15,000.
3. No two boats for the same destination will be permitted to load at the same time.
4. No boat will be permitted to load for New York before September 15.

Almeria, Spain, July 27.

THE POULTRY YARD.

Fall Hatching.

To the Editor: — To many who have never attempted the hatching of chicks in the fall months the advisability of doing so they might question, but the rearing of fall chicks is quite commonly praetieed among the poultrymen and found to be a plan that gives profitable returns.

On the average farm there is spare time after the general harvesting that could be well employed in rearing another flock of chicks, as they can be well grown before cold weather sets in and will have made sufficient growth to withstand disagreeable weather, being in shape to grow rapidly after the rains come, securing an abundance of tender grass, so necessary for their best good, and developing in season to be good early roosters and fillers of the egg basket.

This practice of fall hatching is coming to be more general among the farmers, as at the present time the writer has orders booked far into October for eggs, and more added to the list almost daily, showing the increasing interest and employment of time among the farmers. Birds hatched at this season may be looked to to do the laying the coming fall, when eggs are high, as in this case they moult the first year, and early at that, growing their new coat during the warm weather, and, being fully covered before the cold nights come again, are in condition to keep steadily laying all winter, when properly fed and housed. Much might be said in favor of this, but the plan is to try a setting of eggs from some known breeder and have a flock by spring.

Agnew, Cal. W. S. Sullivan.

The Poultry Crop of 1904.

As usual at this season the Sprague Commission Co. of Chicago present their annual report of the poultry crop in the West for the year 1904. The conclusions arrived at are compiled from inquiries sent throughout Illinois, Iowa, Indiana, Wisconsin, Missouri, Tennessee, Kentucky, Ohio, Kansas and Nebraska.

The reports received this year indicate a material increase in the supply of ehickens, a fair increase in the supply of turkeys and ducks, and a falling off in the supply of geese. The weather conditions have been rather more favorable than for the past two or three years. The season was rather cool, but on the whole quite seasonable, but in some sections of the Southwest, the far West and North, the heavy rainfall caused a rather heavy loss in the early hatchings, especially of turkeys, many of the young birds dying of wet and cold. The fertility of the early eggs also was somewhat affected by the very cold weather during the winter, leaving the stock not in as good condition as when the winters were not so severe, but this was overcome later by more favorable conditions. From Iowa a number of reports stated that rats had killed off a good share of the early hatchings.

Turkeys.—The erop of turkeys is estimated to be about 15% heavier than last year. Our reports in most instanees claim large inereases in the flocks of turkeys, but some points which raised a good many turkeys last year report a material shrinkage this year. On the whole, however, we look for more turkeys to come to market during the winter. The season is unusually late, and where in other seasons a good many turkeys have been shipped in up to this time, so far this year but few turkeys have been received. Then, too, farmers are being blessed with good erops, and in no need for immediate money, ean afford to allow their turkeys to run until fall.

Chickens.—The reports generally indicate a very material increase in the crop of ehickens, and it is fair to state that the erop at least is about 20% larger than last year. The weather conditions were generally favorable. Farmers being in good condition financially, and receiving good prices for their eggs, have perhaps not marketed their stock as early, nor as freely as usual, and indieations are that there is a large quantity to eome forward.

Ducks. — Everything points to a large crop of ducks—such at least are the conclusions derived from the reports reeeived. The indieations are for an increase of about 10% over last year. Late prices have been more encouraging to farmers to raise dueks.

Geese.—The crop of geese is estimated to be about the same as last year, possibly 10% less. Of late the raising of geese has fallen off considerably, with perhaps the largest shrinkage in Illinois, where the enaetment of a law prohibiting geese from running at large has made a very marked differenee in the number of geese raised.

THE STOCK YARD.

Molasses and Beet Pulp for Stock.

We gave recently a sketch of southern California experience with beet wastes. The following summary of results at the Utah Experiment Station is interesting:

The steers and sheep that received only alfalfa and beet pulp made the smallest gains per day, and of all lots they required the most dry matter per pound of growth.

The steers that received only alfalfa and beet pulp gave the largest profits, $5.78 per head. This ration cost $2.80 for 100 pounds increase.

The steers that reeeived a maximum of grain, eight pounds per animal per day, and alfalfa and pulp ad libitum, made the largest gains per day, were third in profit, $2.50 per head, and produced the best quality of meat.

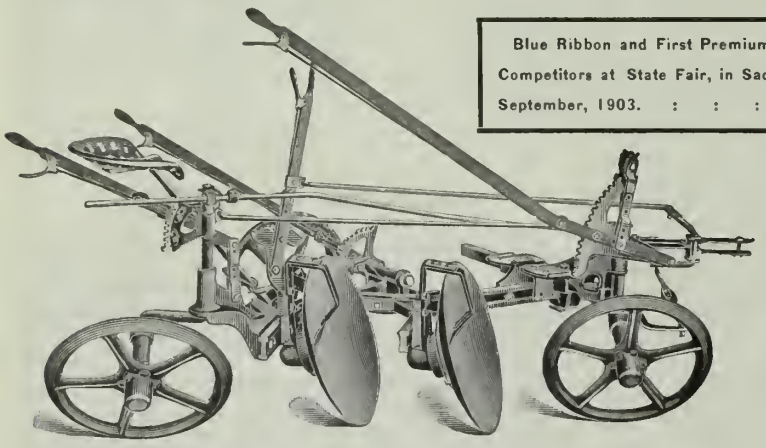
One hundred pounds of increase with steers on a full ration of grain eost $4.93. One hundred pounds of increase with steers on a full ration of eorn, grain and pulp cost $3.98.

When alfalfa and pulp were fed ad libitum with a half ration of grain 100 pounds increase eost $3.51, and pulp had a value of $1.66 per ton.

When a full ration of grain was fed, and pulp ad libitum and a half ration of alfalfa, 100 pounds increase eost $3.84 and pulp had a value of $2.54 per ton.

Of the sheep, the lot which received a half ration of grain, four-tenths pound per animal per day, and alfalfa and pulp ad libitum gave the largest profit. They made as large gains per day as animals that

Blue Ribbon and First Premium over all Competitors at State Fair, in Sacramento, September, 1903.



LA CROSSE TWO-DISC PLOW (Field Style).

The Only Gang with a Caster Land Wheel.

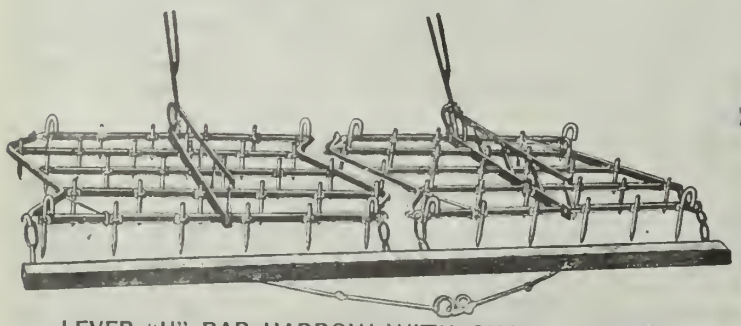


CANTON CLIPPER GANG, THREE-FURROW.

Does Honest Work and Lots of It.

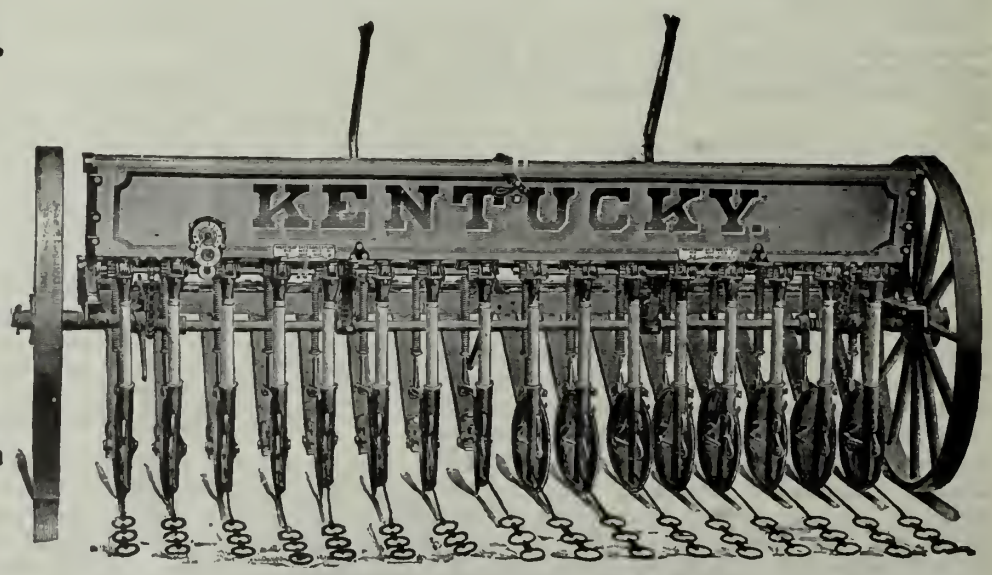
A REVOLUTION AND A REVELATION.

In Plowing Turns Either Way.



LEVER "U" BAR HARROW WITH CHANNEL FRAME.

For Orchard Work We Furnish Guard Rails on Outer Sides to Prevent Injury to Trees. The Runners Are Not Illustrated, But Are Furnished.



"KENTUCKY" DISC DRILL, Steel Frame.

HOOKER & CO., 16-18 Drumm St., San Francisco, Cal.

received twice as much grain and alfalfa and pulp ad libitum. From this we may conclude that a small amount of grain should be fed to lambs getting alfalfa and beet pulp.

Molasses fed to steers had a value of $2.35 per ton. As a sheep food, they did not give the results expected.

Beet pulp when fed to steers with grain and alfalfa had a value of from $1.66 to $2.54 per ton, and when fed to sheep its value ranged from $1.08 to $3.66 per ton.

Steers that received grain made larger and cheaper gains and required less dry matter per pound of gain the latter part of the feeding period thna the fore part.

Steers which received only alfalfa and pulp made practically as good gains the fore part of the feeding period as the latter part.

Agricultural Review.

Alameda.

HOPS SHORT AT PLEASANTON.—Press-Democrat: P. W. Bussman has returned from Pleasanton where he has been engaged in the hop harvest. The Pleasanton company gathered 2,200,000 pounds of green hops this year as compared to 2,300,000 pounds last year. The shortage of 100,000 pounds is said to be due to the fact that an early rain caused the vines to fall badly. The Pleasanton hops are all grown on long poles and break down more easily than those grown on short poles.

FRUIT NOTES. — Niles correspondence Oakland Enquirer: The grapes are particularly good this season and prices rule well. Prunes are done and ready for packing; in fact, the drier has been packing for some weeks. Almonds are nearly all harvested and only walnuts remain to be picked. There is a better crop and of a better quality than last year.

Butte.

GOOD REGION FOR FIGS.—Oroville Register: W. H. McNamee of Thermalito has disposed of most of his green figs this season. He shipped about ten tons to Hunt Bros. of Alameda county. He will have about fourteen tons of dried figs. He is well satisfied with the sale and shipment of the green fruit, and thinks he will get a good price for the dried figs. He has several offers for one or two ton lots, but wishes to dispose of the entire crop at once. He says that, by comparing the figs grown here with those produced in other parts of the State, he is satisfied that this foothill region is one of the best portions of California for this kind of fruit.

Fresno.

BIG YIELD OF RAISIN GRAPES.—Reedley Exponent: J. M. Balkwill, who resides on his ranch near the old Riverbend school house, has picked this season's crop of grapes from his 29-acre vineyard, the yield being 15,099 well-filled trays of raisin grapes, which will easily make forty-eight tons of raisins. Mr. Balkwill expected a lighter crop, as bunches, while maturing, looked thinner than those usually produced by this vineyard; but now it can be seen that lack of quantity is made up in quality. The berries are large, well matured and will make a superior quality of raisins, bound to bring good prices.

GRAPE PRICES.—J. E. Turner, one of Selma's vineyardists, will do well this season, notwithstanding the failure of the raisin association. His Malaga vineyard produced twelve tons of grapes to the acre and he has sold the crop for $15 per ton. His Thompson Seedless vineyard is yielding two and one-half tons of raisins per acre, for which he will receive 3 cents a pound.

Mendocino

MORE HOPS SOLD.—Ukiah Dispatch Democrat: There was something doing in hops in Ukiah Thursday. W. A. Ford bought for Philip Wolf & Co. the hops of Sanford Bros., M. L. Gibson, Ed Howell and Zach Bartlett at 26c, and Ernest Clark sold to Horst at 25½c. This about cleans up the hop crop of this valley, only one lot being left unsold that we know of.

Orange.

WALNUTS. — Anaheim Gazette: The Anaheim Walnut Association expects to have from 200 to 225 tons of walnuts to ship this year, having made this increase from seventy tons shipped six years ago. J. B. Neff, at Anaheim, states that: "The walnut crop will not be larger than it was two years ago. There has been considerable dropping of damaged nuts in the last two weeks, and in some localities the walnuts are small because of want of water and overloaded trees. This applies to the entire valley."

APRICOTS. — The Santa Ana Dried Fruit Association, which controlled practically all unsold apricots of the Santa Ana section, sold all its holdings last week to Gowen & Willard, acting as agents for Rosenberg Bros. of San Francisco. The price paid was 7¾c per pound, slightly more than that realized for the bulk of the crop hereabouts. The sale of the association fruit cleans up all the apricots in the valley, with the exception of a few small individual holdings.

APRICOT PITS.—An apricot pit cracker and sheller, one of the only two in existence, has been shipped from Fresno to Santa Ana and Monday commenced the work of shelling 200 or more tons of pits for Guggenhime & Co. Will McVey and L. Lillard of Davisville are in charge of the machine. Mr. Lillard is a stepson of the inventor, W. G. Read of Davisville. The machine will run through about twenty tons of pits a day. The kernels will be shipped to Holland, where prussic acid will be made from them.

Placer.

SHEEP TAX.—Auburn special to Sacramento Bee: A suit was recently instituted here by District Attorney Robinson on behalf of the Board of Supervisors against the Whitney Estate Company, to compel it to pay its sheep license, as provided by the county ordinance, requiring an annual license of 5c per head upon all sheep pastured in Placer county. The validity of the ordinance was attacked on the grounds that in no way does the measure hint or intimate that it was constructed for the purpose of regulation, and as it could not be imposed for purposes of revenue, the defendant's counsel ask it to be declared illegal. The amount of the tax sued for is $360. Judge Prewett filed a decision overruling the defendant company's demurrer, which practically decides the disputed license to be a valid and collectible one. The case, it is said, will be appealed to the Supreme Court; but License Collector Mitchell will insist on the payment of the tax, until the higher courts decree otherwise.

San Benito.

APRICOTS AND PRUNES FOR EUROPE.—Hollister Free Lance: Over 160 tons of dried apricots have been shipped by the Hollister Packing Co. so far this season. Most of the fruit has been shipped to Amsterdam, Hamburg and Liverpool. Manager Bolton purchased 800 tons of prunes this week, paying a higher price than the growers could realize in San Jose. Several carloads of pitted silver prunes, plums and peaches have been shipped to the packing house from different parts of the State. The fruit will be graded, packed and shipped from here to the markets of the world.

Santa Clara.

PRUNES.—Los Gatos News: The prune crop is harvested and has proven a disappointment, large sizes being few and far between. There is little or no movement in dried prunes. The bulk of the purchases made by the San Jose packers up and down the west side of the valley have been on a 1¼-cent bag basis, with a premium for 30-40s and 40-50s. The shortage of 30-40s and 40-50s is very material. One packer in San Jose out of 800 tons graded obtained only four tons of 30-40s and less than 10% of 40-50s. It costs $3 per ton to gather prunes from the ground, $4 per green ton to dry, and if they go 2¾ to 1 they would cost $19.25 on the trays. On a 1¼-cent bag basis, which is the ruling price to the grower to-day, 80-90 prunes would net $20, a profit of 25 cents per dried ton. Anything smaller would mean a net loss of a considerable amount. Therefore any prunes which run smaller than 70-80s show no profit on these figures.

TALL CORN.—Gilroy Gazette: Alex. Watson has a patch of corn growing on his San Ysidro ranch which has any number of stalks which are 14 feet high, and one of them measures exactly 15 feet. The first ear on the stalk is 8 feet from the ground and can only be reached with the aid of a stepladder. The seed from which this giant corn grew came from the Department of Agriculture at Washington. The name of the variety is not known. The corn grew rapidly, and after it reached its extreme height Mr. Watson was apprehensive that the substance had all gone into the stalk and that the ears would not fill out. But they did.

Solano.

LIGHT ALMOND CROP.—Suisun special to Sacramento Bee: The almond crop, which is now being harvested, is the lightest ever known in the history of almond growing in Solano county. The shipments will form a mere bagatelle compared with the shipments of previous years. Many growers whose crops last year amounted to several tons will not reach the one-ton mark this season. In fact, the crop will not be over 50% of what was anticipated before harvesting commenced.

Sonoma.

MAGNIFICENT FIELD CORN.—Santa Rosa Press-Democrat: Joseph Gutches, who resides on J. C. Wright's place, on the Coffey tract, near Fulton, brought to the office a magnificent ear of white field corn. The ear is a foot in length, is over 8 inches in circumference, and has sixteen rows of grains. He has an acre and a half of the same kind on his place, and believes it is the finest in the county.

PRUNES.—Petaluma Courier: With a fair crop of prunes everywhere in Sonoma county, and in most places a large crop, the growers would have obtained rich results this season but for the bottom being out of the prune market. A basis of 1¼c for the four sizes is what has been offered, and the president of one of the big packing concerns stated that the price was on a basis of 1¼c and 1½c. Many of the growers have contracted their prunes on a 1¼c basis. Other growers will hold and await developments.

Stanislaus.

"PICK-UP" FOR ALFALFA GROWERS.—Modesto Herald: By reference to our table of daily water measurements, it will be seen that the volume in the canals has been increased—nearly doubled—for the last three days, compared with the days immediately preceding. The rise commenced Saturday morning, was maintained Sunday and increased Monday. Within a week every irrigator in Modesto district will have had one irrigation more than he looked for, benefitting correspondingly, the irrigating season usually closing September 1, and this is true, too, of Turlock district. It means an extra and heavy crop of alfalfa on about 25,000 acres of land, and good pasturage afterward. Estimating the total of this crop at, say, 40,000 tons, and its value at $6 per ton, we have a "pick-up" of nearly a quarter of a million dollars.

HER COWSHIP A DELEGATE. — Her Cowship, Juliana de Kol, the world's prize heifer, who has produced her weight in milk in two weeks, is going as a delegate to the convention of the National Butter Makers' Association, which meets at St. Louis on October 20th. Juliana is now being prepared for the journey to the World's Fair city by her owner, Charles D. Pierce of Stockton. She will make the trip in grander style than any of the other delegates, having a special car for herself, painted in California colors, and a small train of attendants. Of the ordinary luggage that delegates to conventions carry she will need none; but since the railroad diners do not carry the choice delicacies in the bran mixtures that her cowship is used to, she will take along a commissariat of her own. Juliana's record for milk and butter producing is the best of any cow in the world of her age. She produced in one week 417 pounds of milk and 22 pounds and 9 ounces of butter.

Tehama.

WOOL BUYERS BUSY.—Red Bluff special to Sacramento Bee: Something was doing in the wool market all day Saturday and both buyers and growers seem to be greatly pleased with the results of the day. It is reported that fully 1000 bales changed hands and that prices were in the neighborhood of 12 cents—the best figure obtained being a shade better than 12½ cents. The total output of the county is estimated at 2500 bales, and the greater part of this large fall yield is now sold. Some of the sales made Saturday were for wool on the sheep's backs. The old custom of bringing the sheep to the home ranges for shearing was followed, although it was said a few weeks ago that some of the flocks would be sheared in the mountains. Some outlying districts are shipping their clips to the county seat by wagons and a half-dozen teams are arriving every day.

Tulare.

SONORA WHEAT. — Sentinel: Harry Boyd has returned from Tulare where he had charge of three big harvesters, and about 300,000 sacks of wheat was harvested in the Tulare lake region. He brought with him some fine samples of Sonora wheat, the heads being 4 to 6 inches long and the yield was an average of thirty sacks to the acre.

GOOD CROP OF GRAPES.—Visalia Delta: T. A. Elliott, who owns a ranch west of town, states that he will harvest 100 tons of wine grapes from ten acres this year. He has already sold his product to the winery at Lac Jack.

Ventura.

BEAN CROP LIGHT.—Enterprise: Bean threshing is now on in every part of Ventura county, and some idea of this year's harvest can be gained from the reports of the outputs of the fields already threshed. The crop of 1904 is undoubtedly going to be much lighter than that of last year. The figures on the yield vary to a remarkable degree. Some place it as low as 160,000 sacks, while some go as high as 400,000 sacks. Last year's crop was nearly 600,000 sacks. On the irrigated lands the crop averages very well, as high as twenty to thirty sacks per acre, but on unirrigated tracts the yield will not average more than eight or ten sacks to the acre. On the Dixie Thompson rancho, which is this year farmed in subdivisions, but as usual all in beans, the threshers began operations last week. The average for the first few days was about eight or ten sacks to the acre. There are 1500 acres in the ranch. The best yield reported in the south of the river section is that on Frabe ranch of twelve sacks to the acre.

Yuba.

WOOL SALES.—Marysville Democrat, Sept. 27: The first sale of wool of the fall clip by the Wool Growers' Association took place in the J. R. Garrett Co.'s warehouse last Saturday, and prices that were accepted ranged about 12 cents. Bids that were considered too low were rejected, and there were several of these. Some lots were sold prior to the regular sale and prices received were not made public. Sales were made as follows: Eli Davis, 17½ bales, sold to Joseph Biddle at 11.77½ cents; W. F. Hoke, 41 bales, to Dickens & Kerns at 12 cents; Fred O'Banion, 5½ bales, to F. B. Findley at 12¼ cents; W. P. Smith, 18 bales, to F. B. Findley at 10 cents; Howlett Bros., 2 bales, to F. B. Findley at 9 cents; Frank Brown, 19 bales, to F. B. Findley at 11 cents. The Elkins & Gianella wool brought the highest bid, 13⅛ cents, and was sold to Frank Lee.



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CAUSTIC BALSAM

A safe, speedy and positive cure for

Curb, Splint, Sweeny, Capped Hock, Strained Tendons, Founder, Wind Puffs, and all lameness from Spavin, Ringbone and other bony tumors. Cures all skin diseases or Parasites, Thrush, Diphtheria. Removes all Bunches from Horses or Cattle.

As a **HUMAN REMEDY** for **Rheumatism, Sprains, Sore Throat,** etc., it is invaluable.
Every bottle of **Caustic Balsam** sold is Warranted to give satisfaction. Price **$1.50** per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars, testimonials, etc. Address
THE LAWRENCE-WILLIAMS COMPANY, Cleveland, Ohio.

Colony Tracts in Stanislaus County.

We are laying out two Colony tracts, one close to Modesto City, in that Irrigation District, and one in the country part of Turlock District, 5 miles south of Ceres. In both of them we can sell you good land, in small lots, on terms to suit. If that is what you want, we shall be pleased to hear from you.

MAZE & WREN. Modesto, California.

DON'T BUY GASOLINE ENGINES UNTIL YOU INVESTIGATE "THE MASTER WORKMAN," a two-cylinder gasoline engine superior to all one cylinder engines; revolutionizing gas power. Costs Less to Buy and Less to Run. Quickly, easily started. No vibration. Can be mounted on any wagon at small cost—portable, stationary or traction. Mention this paper. SEND FOR CATALOGUE. THE TEMPLE PUMP CO., Mfrs., Meagher & 15th Sts., Chicago, THIS IS OUR FIFTY-FIRST YEAR.

The Home Circle.

An Unfortunate Influence.

Ol' Mistuh Jones he low'd dat he
Wus as sure of heaven as a man could be,
An' he sniffed aroun' an' he put on airs,
An' he wouldn' ten' to his own affairs,
An' he acted in such a haughty way
Dat de neighbors 'lowed dey wished h'ed stay
To home, instid of his braggin' aroun'
Cause we couldn't all travel whah he was bound.

But de very worst about Mistuh Jones
Wif his braggin' in dem contemptuous tones,
Was de way dat some of us went an' did.
We got so reckless we done backslid,
An' we had our doubts, as sure as fate,
Bout gettin' in past de pearly gates.
An' some of 'em said dat dey didn't much care
If ol' Mistuh Jones was a-goin' there.

—Washington Star.

As Summer Wanes.

I dropped a seed in a cold, cold heart
Far back in the early spring;
I've tried and tried to make it start,
Oh, I've tried like anything.

The garden flowers that the sun has freed
With bloom are all areek.
Ah, when shall a bud from that little seed
Blush pink in my true love's check?

—E. S. Martin.

At Night.

Sometimes when Dark has spread for me her robe of rest,
And Silence guarded by;
The night bird, Sleep, would startle from her nest,
Stirred by the baby's cry.

When night is deepest now, again and yet again,
I lie with wide eyes wet.
It was his little cry which waked me then;
His silence wakes me yet.

—Edmund Vance Cook.

Palmistry.

Alone James did it. I have told him since that I owe him a debt of gratitude which I never, never can repay. His reply, that he would rather I owed him something which I could repay, touched me deeply, but had no other immediate result.

I must give you his name in full: James Arthur Brocklebank. Perhaps some day will find me teaching my children to lisp that dear name at their mother's knee. This is what they do in novels, though I should not think "Brocklebank" allows of much scope for lisping. Still, there it is.

It was at a fancy bazaar. Most of us at the hall were helping in some way. Our dear hostess was selling—what are those things that ladies buy?—while her daughters had sweet and scent and tobacco stalls, and so forth. I thought at first that I was the only unemployed one until James strolled up.

"Hello," he said; "You're doing nothing."

"I wanted to help," I explained. "My idea was to keep a tobacconist's stall, and then one could smoke cigarettes all the time. The assistants in shops always do that to advertise their goods."

"O! And I suppose assistants in sweet-shops eat sweets all the time?"

"Of course."

"Have you ever thought," said James, reflectively, "what a tired time the right-hand man of a butcher must have?"

"Look here," I said, "did you come to talk rot like that to me?"

"No; I want you to have your fortune told. There's a palmist here."

"But I haven't a fortune."

"You don't want one. Half-a-crown's enough."

I went with him under protest. It was a very dark tent into which we plunged, and I could see no fortune teller.

"Where is she?" I asked impatiently.

"The other side of the curtain," said James; "but you mustn't go in. You put your hand through there, and she is on the other side. Of course, if she saw you, it would spoil everything."

"Who is it?"

"Never mind."

I put my hand through. Some one took it, and it seemed as though she were going over the lines of my palm with a pencil.

"Don't do that—please!" I said. "It tickles."

There was a light laugh from behind the curtain.

"You are very ticklish," said a voice.

"That isn't palmistry," I remonstrated.

"You are also quick-tempered, slow minded, thin-skinned—"

"Fat-headed, go on!" I said bitterly. "Just you wait till I see you."

"I'm awfully sorry," said the voice. "I don't think I have the right hand."

"Of course you haven't. It's the left."

"Yes, that's right. Oh, I see! I was looking at it upside down. You are modest, clever, athletic and of an artistic temperament."

James laughed unkindly.

"Did you laugh?" asked a voice.

"Certainly not!" I replied. I wouldn't think of such a thing. But you are only saying things I know already. Won't you tell me my future?"

"You will be married within a year."

I gasped.

"Did you gasp?" asked a voice.

"That was the impression I intended to convey. But are you sure?"

"Quite, quite sure. The line of the heart says so."

"Heart lines, old chap!!" said Jim, nudging me.

"What did you say?" asked the voice.

"Nothing," I answered. "What you heard was a hitherto honored and respected friend being kicked. But I say, tell me. When shall I be engaged?"

"Before the end of the week."

"Hi, Jim, quick!" I shrieked. What's the day now?"

"The thirteenth," said Jim.

I shot a glance of scorn and loathing at him.

"Sorry, old man," he said, hurriedly. "It's Saturday."

"Why—good—Lord—then I shall get engaged to-night!"

"Why not?" asked Jim.

"Why not? O you idiot! She's not even in the house. She's in London."

"Who is?"

"Who?—why—O, nobody. You see what I mean. There's nobody in the house that—"

"It's no good," said James with a grin.

"You've given yourself away."

I turned back to the curtain.

"Are you still there?" I asked. "Are you there, are you there, are you there, are you—"

"I've finished, thank you," came the voice.

"But are you quite sure about being engaged by the end of the week?"

"Quite, quite sure," said the voice a little shakily.

James and I went out.

"Who is she?" I asked. I didn't recognize the voice."

"O, she'd take good care about that."

"Well, anyhow, it's impossible."

We entered the refreshment tent and drank things. Jim tried to be facetious about my rapidly approaching engagement. He even misquoted poetry to me. Things about love and so on.

"Did you make that up yourself?" I said wearily. "It's very bad."

"Why, it's Shakespeare, man," he said indignantly.

"O, thought it was you."

"I don't mind having it," he said, and ordered a third drink. Kindly observe the new Swan of Avon."

"Are swans such great drinkers, then? I didn't know."

"You're in a nasty horrid temper, and I shall leave you," said Brocklebank.

I watched him go through the door of the tent. Some one was coming up. He went on and spoke to her. It was a lady. He came back with her and brought her up to me. Good Lord! It was Kate!

"He'll give you tea," said James. "I must go. Good-by."

He raised his hat and went off.

"It is impossible," I said.

"Well, what's the matter?" asked Kate. "Aren't you glad to see me?"

"Go away. You're in London."

"I've just this moment come. You knew I was coming, didn't you?"

"No, I've hardly seen any one. I've only just come myself. Why, what train—"

"Never mind the train," said Kate, hurriedly; "I want some tea."

We had tea. All the time I was wondering if I dared "to put it to the touch, to win or lose it all." At last I took out a penny and tossed it. If it turned tail, why, then, so would I. But if not—

"Heads," said Kate.

"It is. That settles it. After all, who am I to blast the reputation of a respectable and, for aught I know, beautiful palmist?"

"I don't know what you are talking about," complained Kate.

"Kate," I said, impressively, "it's written on my hand"—and I showed my hand—"that I shall get engaged to-day."

"Is that what they call shorthand?"

"It's palmistry. The line of heart has done something exuberant."

"Well, I hope she'll have you," said Kate.

"Do you think she will?"

"You should ask her."

"I am," I said, and I took her hand. "Dear, do you think she will?"

"I don't know," said Kate, looking down. "Perhaps she might."

"Only perhaps? Kate, say you're sure she will."

"Quite, quite sure," said a voice.

Something in the words struck me. She looked up at me with a smile. Then I began to understand.

"Kate!" I cried.

"Isn't it a beautiful day?" said Kate.

—A. A. Milne, in Black and White.

Hives.

During warm weather the conditions are favorable for the appearance of a very common yet most annoying minor ailment. Hives is the popular name for a form of cutaneous eruption to which some people are very susceptible and which is more elegantly known as nettle rash or urticaria.

The latter terms are derived from the fact that contact with nettles is one of the surest means of acquiring the disease. The leaves of this plant are covered with a velvety down, which, when handled, sets free minute quantities of an irritating juice capable of causing local swellings of the skin, with intense itching and burning. Other plants, such as the squill and the pods of the cowhage, have the same property; and contact with jelly-fish, certain caterpillars, particularly the hairy ones, certain drugs, and, in some cases, even sea-bathing will produce similar results.

It is curious that in many persons articles of food or disorders of digestion give rise to similar symptoms. Individual peculiarities play an unusually large part in this respect, and things harmless to some invariably give rise to trouble in others. Among the commonest of these are strawberries, raspberries and other fruits; crabs, oysters and shell-fish in general; fish, tinned foods, pork, sausage, mushrooms, nuts, cucumbers; also many drugs, such as quinine, sodium salicylate, chloral and so on, as well as diphtheria antitoxin.

In these cases, either immediately or shortly after taking the article in question, more or less raised, red or pale patches, varying in size, appear on the skin of a part or the whole of the body, and give rise to great discomfort through the burning and itching they cause. These may be the only symptoms and the trouble may disappear in a few hours; or in rare cases there may be evidences of severe constitutional disturbances, as shown by high fever, headache, backache, coated tongue, loss of appetite, great thirst, nausea and vomiting.

The treatment for the mild cases consists in light diet and laxatives, together with the attempt to discover and avoid the cause of the trouble. For the itching, alkaline baths, cooling and astringent lotions and dusting powders will give relief. The temptation to scratch the affected region should be resisted as much as possible, as it only aggravates the condition. In severe cases medical advice is of course necessary.—Youth's Companion.

Preserving Cut Flowers.

The best time to cut flowers to keep well is in the early morning, before the sun's rays have reached them. A knife or a pair of scissors should always be used to clip them off, as they should be cut smooth and free from the stem, and never pulled or broken off. Flowers not fully developed will keep the longest, but they should reach their maturity of color and size before being cut. After they are cut they should be kept in a cool, shady place, and care taken to prevent drying winds from blowing upon them. If they are to be kept over night or for several days, it is a good plan to put them in a pitcher or a pan of water, and cover the whole with a paper framed like a balloon, then set away in a dark, cool place. In this way they will have plenty of air, darkness and moisture, which are essential to preservation of cut flowers. If wanted to carry a long distance, they should not be packed lightly in a bunch. The best way is to procure a wooden or stiff pasteboard box, line it with oiled paper or tinfoil, and place a layer of dampened sphagnum moss in the bottom, and upon this the flowers. They should be put in carefully, so that none of the petals will be crushed or receive too much pressure, then given a slight sprinkling of pure water, covered with oiled paper, and the box closed tightly. In this manner they can be carried a long distance, and if not allowed to stand in the sun or remain in a warm room they will come out as fresh as when first cut. When flowers are kept in a vase the water should be renewed every morning. The ends of the stems should be clipped off and all decaying leaves removed. Many recipes have been given for preserving cut flowers every morning. The ends of the stems putting them in boiling water, etc., but nothing preserves them so well as keeping them dark, cool and moist and giving them pure water. Charcoal is sometimes used to keep the water pure, but keeping them supplied with fresh water is better.—The Designer.

The Magic Kettle.

In these days, when a veritable tidal wave of silverware follows in the trail of even the modest wedding, the young housewife has much ado to keep all undimmed her glittering treasures for the inspection of a sometimes wearisome file of new relatives and friends.

And if my lady's dainty fingers are her only servant, she will be pleased with a suggestion which has been put to practical test by the owner of a chest of silver.

Have a large aluminum kettle (which can be bought for a dollar) filled with boiling water. Into this plunge all the silver which can be covered by the water, and boil for half an hour, covered. If the silver is not very dirty it will look white and new in a few minutes; but the aluminum will become coated with a sediment from the silver and must be carefully scrubbed.

This may prove a magic kettle.—Table Talk.

"Does the mule kick?" is a question of the Atlanta Constitution. Gentlemen who have dallied with the rear elevation of the mule are not, as a rule, competent to tell, after the dalliance, whether it was a kick or an earthquake that caused the concussion.

"Mamma, don't you think you are unreasonable?"

"How so, my son?"

"You whip me if I forget to take my bath, and you whip me if I go in swimming."

Domestic Hints.

Golden Cream Toast.—Cut slices of stale bread into diamonds and toast to a pale brown, drying slightly in the oven before browning. Make a rich white sauce of a pint of milk, three tablespoonfuls of butter, two tablespoonfuls of flour, half a teaspoonful of salt, a dusting of mace and a light dusting of pepper. Cook until smooth, add the grated yolks of three hard-boiled eggs and pour over the toasted bread.

Baked Squash.—Squashes will soon be at the height of their perfections. Stewed plain with salt and pepper they are not to be despised, but they make a splendid entree when baked with spaghetti. Arrange in alternate layers, beginning with the latter, and sprinkle breadcrumbs which have been moistened with cream upon the top dressing of squash. Bake a light golden brown. It must be understood that spaghetti must previously have been boiled in salt water and the squash mashed with plenty of butter.

Tomatoes a La Creme.—Take a small piece from the stem end of firm, ripe tomatoes and carefully remove the seeds. Cut twelve mushrooms in small pieces, add two tablespoonfuls of fresh breadcrumbs, one tablespoonful of butter, one-half cupful of chopped chicken and a light seasoning of salt and pepper; have the butter melted and the crumbs soft. Mix well and fill the tomatoes. Bake for thirty minutes, basting often with melted butter. Whip three tablespoonfuls of cream, add one tablespoonful of melted butter and place a portion on each tomato.

Corn Chowder.—Cut a 2-inch cube of fat salt pork into small pieces and try out; add a small onion, sliced, and cook slowly for five minutes, stirring often to keep it from browning, then strain the fat into a saucepan. Cook a pint of sliced raw potatoes for five minutes in boiling water to cover, drain and add to the fat. Add also a pint of raw sweet corn cut or scraped from the ear, half a teaspoonful of salt, a saltspoonful of pepper and boiling water to cover. Simmer until both potatoes and corn are tender. Melt a rounding tablespoonful of butter, add an equal quantity of flour and gradually a pint of milk. Let it boil a few minutes, add to the chowder, season the mixture more if needed, boil up well and serve hot with crackers. A cupful of tomatoes, pared and sliced, may occasionally be cooked with the potatoes and corn to give pleasing variety.

Small Veal and Ham Pies.—One and a half pounds of veal, a quarter of a pound of bacon, two hard-boiled eggs, three-quarters of a teaspoonful of salt, a quarter of a teaspoonful of pepper, a little nutmeg, one teacupful of water for gravy, or the bones of the veal may be boiled and this stock used for gravy. Grease some patty tins and line with the following paste: One-half pound of flour, four ounces of butter and half a teaspoonful of baking powder. Mix the butter into the flour, add the baking powder and make into a stiff paste with water. When rolled out thinly, line the tins with it, cut lids from the remainder of paste and make a small hole in the center of each. Cut the veal, bacon and eggs into very small pieces, add the seasoning and the water or stock. Fill the patty tins with the mixture, wet the edges of the paste, put on the lids and brush the top with milk or beaten egg. Put in a hot oven and bake for half an hour. These pies are very good eaten cold.

A Sagacious Dog.

An instance of the wonderful sagacity of a shepherd dog has just been shown. A dog assisting young Tobia Granita at Douglas Flat to drive stock through the brush came upon an old blind shaft, and before it was aware plunged down the shaft, at the bottom of which was considerable water. Frank Cooper, a rider, soon secured a lariat rope, at the end of which was a large knot. He lowered this down the shaft and it barely reached the dog. Realizing its position the animal made a few plunges and finally secured a firm hold on the knot at the end of the rope. Cooper began to hoist and the shepherd hung on by its teeth until it was landed safe and sound at the top.—Calaveras Prospect.

Hints to Housekeepers.

"Coffee is an excellent fumigant, and one whose pungent odor vanishes more quickly than those in ordinary use," Prof Marcus I. Epstein states. "No matter what the disagreeable odor in the apartment may be, the coffee not only drives it out, but absorbs, decomposes it, one might say, and replaces it with the healthy odor of coffee, which can not be disagreeable even to the most sensitive."

How many housekeepers have the telephone mouthpiece cleaned every day? It is idle to ask how many business men demand such cleanliness, because it is tolerably certain that none do. Yet both the receiver and the mouthpiece should be thoroughly cleansed with a damp cloth every morning, to avoid the collection of dangerous germs. Every one who has revolted before the disgusting atmosphere of a public telephone booth must realize the truth of this statement.

Add no water, either hot or cold, to form the gravy of roast beef. While this answers very well for the white meats and poultry, it is much better to put the meat into a hot oven and gradually reduce the heat, so that its natural juices exude, which are the best for basting it. Dredge with pepper first, then with flour, adding salt only when the crust of the meat is well formed. A little grated onion is considered to improve the flavor. Beef thus roasted will be found to yield a quantity of delicious "plate gravy" upon being carved.

Rag rugs are more and more liked for bedrooms. They are made in most artistic combinations of color by the craftsmen and may be woven to order in tones to match any room. Rugs made of old ingrain carpet, especially if the carpet be all wool, are very satisfactory for simple rooms and upstairs halls. The carpet is cut into long strips about an inch wide, the longer the better, and rolled into balls for the loom. When pieces are sewed, the joinings must be very neatly made. The warp has to be very heavy to hold the carpet well, and care should be taken that the weaver is a good one. An old green ingrain woven with a red warp is described by Mrs. Candace Wheeler as one of the choicest in her collection. The red warp is good with nearly all figured carpets.

How to Select Good Prunes.

Prunes should be large and solid and have the surface unbroken if one wants them worth the cooking. Take one in your hand, pull and flatten it out. If it leaves the skin unbroken and shiny you may feel safe that you have the proper article.

After washing them and allowing them to stand in clear, cold water over night, allow them to cook over a slow fire for an hour. To two pounds of the fruit, add one pint of water, stew slowly for one-half to a full hour. When putting in the sugar a rich flavor can be added by slicing a lemon and grating the rind into the prunes. Let them stew until there remains just enough water to cover the fruit and make a rich juice.—What to Eat.

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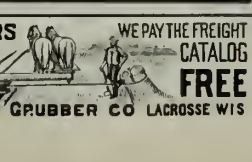
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The Markets.

San Francisco Produce Report.

SAN FRANCISCO, September 28, 1904.

CHICAGO WHEAT FUTURES.

Wheat futures in Chicago were as follows for the week named, price being for No. 2 Red per bushel:

	Dec.	May.
Wednesday	$1 10 @1 08¼	$1 11⅜@1 10⅝
Thursday	1 08¾@1 10⅝	1 10½@1 12¼
Friday	1 10⅜@1 13⅞	1 11¼@1 14½
Saturday	1 12½@1 14⅞	1 13½@1 15¾
Monday	1 14½@1 10½	1 15½@1 11½
Tuesday	1 10¼@1 12½	1 11⅜@1 13¾

CHICAGO CORN FUTURES.

Prices of futures on No. 2 corn per bushel in Chicago were as follows for the week:

	Dec.	May.
Wednesday	51 @50¼	50⅜@49½
Thursday	49⅝@50⅝	48⅝@49⅝
Friday	49¼@50⅜	48⅛@49¼
Saturday	51¾@52¾	50 @51¼
Monday	51⅛@50¼	49¾@48⅝
Tuesday	50 @50½	48½@49

SAN FRANCISCO WHEAT FUTURES.

The range of values in San Francisco for No. 1 White wheat per cental was as follows:

	Dec., 1904.	May, 1905.
Thursday	$1 51⅞@1 51⅝	$——@——
Friday	1 51⅝@1 52¾	——@——
Saturday	1 52¼@1 52	——@——
Monday	1 50¾@1 51½	1 52¼@1 52⅛
Tuesday	1 51½@1 51⅛	1 52⅛@——
Wednesday	1 50½@1 51⅛	1 52 @1 51¾

Wheat.

The market has shown more firmness than during preceding week, but quotable values for spot offerings have been without special change, and trade has continued of a light order. Thore is not likely to be any heavy outward movement of wheat from this State the current season. More wheat is now being brought to San Francisco from Oregon and Washington than is being cleared outward from this port. Some of this Northern grain is going aboard ship here for foreign destination and some is being mixed by millers with California wheat. Receipts of Oregon and Washington whoat at this centor during Septomber aggregated 275,025 centals, and from the interior of this State were not quite 100,000 centals. Thero has been heavy purchasing of wheat in Oregon and Washington for shipment East, the latest estimates of the amount bought being in the noighborhood of 10,000,000 bushels. Tho grain will be used for blending with soft winter wheat. This wheat has hoen purchased in the North at 70c to 75c per bushel, which will make it $1.05 to $1.10 per bushel in Chicago. A ship was chartered in the local market to carry wheat or barley to Europe at 21s. 3d. to Cork for orders, usual option as to port of discharge, 20s. if clearing direct. It is altogother probable that wheat will constitute only a small portion of the cargo, as has been the case with most of the ships clearing from this port for the past two years. Tne Duluth Commercial Record ostimates 156,000,000 bushels as the wheat crop of the Northwestern States; as compared with last year it figures a shortage of 30,000,000 to 45,000,000 busels in actual milling value.

California Milling	$1 50	@1 62½
Cal. No. 1 shipping, alongside	1 45	@1 47½
No. 1 Oregon Club	1 45	@1 47½

PRICES OF FUTURES.

During past week the range on options was:
December, 1904, delivery, $1.50¼@1.52¼.
May, 1905, delivery, $1.51¾@1.52¼.

Wednesday, at the forenoon session of Exchange, December, 1904, wheat sold at $1.50½@1.51⅛; May, 1905, $1.52@1.51¾.

Ocean freights and prices for wheat, as compared with a year ago, are as follows:

	1903-04.	1904-05.
Liv. quotations	-s-d@-s-d	-s-d@-s-d
Freight rates	12½@16s	21¼@—s
Local market	$1 40@1 42½	$1 45@1 50

Flour.

There is a moderate movement outward, mainly to Asia and Central and South America. Trade on local account is of fair average volume. Market for desirable qualities is moderately firm at current figures, with stocks not particularly heavy, hut at the same time ample for immediate needs. There is some hard wheat Dakota flour on the market which is being jobhed at $6.50@7.00 per harrel.

Superfine, lower grades	$3 25	@3 50
Superfine, good to choice	3 50	@3 75
Country grades, extras	4 25	@4 50
Choice and extra choice	4 50	@5 00
Fancy brands, jobbing	5 00	@5 25
Oregon, Bakers' extra	3 75	@4 25
Washington, Bakers' extra	3 75	@4 40

Barley.

Market has been tending in favor of the selling interest, although in the matter of quotable values there are no pronounced changes to record. It has heen exceedingly difficult, however, to purchase at inside quotations or anywhore near thereto, especially in noteworthy quantities. Demand is mainly for the common variety of barley, there being scarcely anything doing in Chevalier, and quotations for the latter are necessarily largely nominal. Offerings of Chevalier barley are not heavy. Two ships were taken for barley cargoes to Europe at 23s. 9d. Another ship will take barley as main cargo at 21s. 3d. if calling at Cork for orders, or at 20s. if clearing for direct port. In the speculative market there was no active trading, but prices for No. 1 feed, December, were higher than previous week, touching $1.13½.

Feed, No. 1 to choice	$1 11¼@	—
Feed, fair to good	1 07½@1 10	
Brewing, No. 1 to choice	1 12½@1 20	
Chevalier, No. 1 to choice	1 20 @1 25	
Chevalier, common to fair	1 00 @1 10	

Oats.

There is a good demand for desirable feed qualities and also for choice seed oats. Blacks suitable for seed are bringing as high as $1.75 in a small way. Market throughout is firm, there heing no heavy spot stocks of any description. Prices may not go much higher, hut that materially lower values will he soon experienced is altogether improbable.

White oats, fancy feed	$1 42½@1 45	
White, good to choice	1 35 @1 40	
White, poor to fair	1 25 @1 32½	
Milling	1 40 @1 45	
Black oats	1 25 @1 65	
Red, fair to choice	1 22½@1 47½	

Corn.

Market is moderately firm for Eastern, and decidedly firm for choice California corn, with very little of the latter offering. Egyptian is now practically out of stock and not quotable. Estimates of the Eastern corn crop range from 1,900,000,000 bushels to 2,491,000,000 bushels, the first figures being the guess of Brown of New York, and the latter the estimato of H. V. Jones of Minneapolis.

Large White, good to choice	$1 45	@1 50
Large Yellow	1 45	@1 50
Small Yellow	1 60	@1 65
Egyptian White	——	@——
Egyptian Brown	——	@——
Eastern, in hulk	1 32½@1 40	

Rye.

Holders are rather firm in their views. Buyers are not taking hold freely.

Good to choice	$1 35	@1 40

Buckwheat.

New crop is expected on market at an early date. Nominal values at present are $1.90@2.25 for good to choice.

Beans.

The recent rains did serious damage to the bean crop now being harvested in a large portion of the State. The tendency will be to make a decidedly firm market for choice and a weak market for faulty qualities. As to the exact extent of the injury and lo s, much will naturally depend on the weather of the next week or two, but in any event there will be many stained and faulty beans, and large quantities may prove utterly worthless.

Pea, fair to good, 100 lbs	$2 75	@3 00
Small White, good to choice	2 80	@3 10
Large White	2 20	@2 50
Pinks	2 75	@2 90
Bayos, good to choice	2 20	@2 50
Red Kidneys	4 00	@4 50
Reds	3 75	@4 25
Limas, good to choice	3 90	@4 00
Black-eye Beans	2 25	@2 50

Dried Peas.

New crop Green Peas are beginning to arrive from Humboldt. Choice were placed at $2.50. Niles Peas are too scarce to quote; offerings would bring good figures at present.

Green Peas, California	2 00	@2 50
Garhanzos, Large	3 25	@3 50
Garhanzos. Small	3 00	@3 25

Hops.

The market continues to present a very firm tone. There are not many hops offering from first hands. A large portion of the crop has been placed. Tho hops remaining in the control of growers are generally hoing held for higher figures than are at present obtainahle. Fortunately for the growers, nearly all tho hops in this State wore picked before the recent rain-storm. The New York Producers' Prico Current says: "The picking in New York State is coming to an end and a fair criticism of the quality can now he advanced. The hops in general are satisfactory in color; a good many will he choice in quality; quite a quantity will show only prime and there will be some mediums on account of the mold. The estimates on quantity are conservatively placed at 65,000 to 70,000 bales. The market in the State tho past week has been one of the most active in the history of the trade. Growers have been free sellers at the current prices, 30@31c, and in one of the largest counties it is estimated that one-half of tho crop has passed out of growers' hands. English markets report that holders are very firm on all grades and that there is a go d inquiry. Crop estimates of the English growth are still placed at 325,000 cwts. Thore has been demand for 1903 Pacifics and sales have been mado between dealers at 27@27½c. There is also some demand for 1903 State hops, but there are none to do husiness with."

California, good to choice, 1904 crop	25	@28

Wool.

Market is fully as firm as at any previous date this season. Prices have been higher in years past, hut demand for desirable wools has never been more active. Most of the purchasing is being done in the interior, dealers hunting the wools instead of letting growers hunt buyers. Eastern and foreign markets are quoted firm. At last London sales there was an advance in prices of 5% on most desirable offerings. The steamer Peru, sailing Saturday last, carried 37,000 lbs. wool for New York.

SPRING.

Northern, free	22	@—
Northern, defective	17	@20
Oregon, good to choice	20	@22
Nevada	15	@20

FALL.

Northern	14	@17
San Joaquin and Southern, free	12	@14
San Joaquin and Southern, defective	8	@10
Southern lambs, as to quality	8	@14

Hay and Straw.

There have been heavy arrivals of hay the past week, especially by rail, cars which had been sidetracked for want of motivo power being rushed in. The demand was slow, particularly for other than choice to select Wheat, the only sort for which the market showed any firmness. There was considerable damage from the recent rains to unprotected hay in the interior.

Wheat, good to choice	$12 00	@ 13 50
Wheat and Oat	8 50	@ 11 00
Tame Oat, fair to choice	8 00	@ 11 50
Wild Oat	7 00	@ 10 00
Barley	7 00	@ 9 00
Alfalfa	9 00	@ 11 00
Compressed	10 00	@ 13 50
Straw, ₱ bale	25	@ 50

Millstuffs.

Market is well stocked with Bran, and were it not that supplies are principally in the control of the combine, prices would be lower. Middlings are not arriving very freely, but there are more than enough for immmediate domand. Market for Rolled Barley is firm at quotations. Milled Corn is being steadily held.

Bran, ₱ ton	$20 00	@ 22 00
Middlings	24 00	@ 28 00
Shorts, Oregon	21 00	@ 23 00
Barley, Rolled	23 00	@ 24 00
Cornmeal	32 00	@ 32 50
Cracked Corn	32 50	@ 33 00
Oilcake Meal	31 50	@ 33 00

Seeds.

New crop Alfalfa Seed is beginning to arrive and values for same are likely to be soon established. In other seeds quoted holow there is no great movement, most kinds being in light stock.

Flax	$1 75	@ 2 25
Mustard, Yellow	3 15	@ 3 25
Mustard, Trieste	3 25	@ 4 50
		Per lb.
Canary	7	@—
Rape	1¾	@ 2½
Hemp	3½	@—
Timothy	5	@ 5½

Honey.

There is a moderate business doing on home account, but very little inquiry from outsido points, either Eastern or foreign. While there is not much honey on market, there is more than is likely to be required for home use, especially of other than strictly high grade. In quotable values there are no changes, holders being generally firm in their views.

Extracted, White Liquid	6	@ 6½
Extracted, Light Amber	5	@ 6
Extracted, Amber	4	@ 4½
Extracted, Dark Amber	3½	@ 3¾
White Comb, 1-frames	12½	@13
Amber Comb	9	@11

Beeswax.

Market is lightly stocked. There is a very fair demand. Current values are being well maintained.

Good to choice, light ₱ lb	29	@30
Dark	27	@28

Live Stock and Meats.

Demand for Beef has not been particularly active the past week, but prices have ruled firmer. Veal was not in heavy receipt, but there was no quotable improvement in values. Market for Mutton was moderately firm at slightly higher figures, with lighter offerings and very fair demand. Hogs were in good request, more especially modium sizes of hard, grain fed stock, and market was tolerably firm at the quotations.

Allowing for the shrinkage of ahout 50%, which is exacted in huying cattle on the hoof, live cattle command as much or more per pound than dressed heef, the shrinkage exacted heing the slaughterers' profit.

The following quotations for beef and mutton are based on prices realized hy slaughterers from wholesale dealers:

Beef, 1st quality, dressed, net ₱ lb	6	@ 6½
Beef, 2nd quality	5	@ 5½
Beef, 3rd quality	4	@ 5
Mutton—ewes, 6½@7c; wethers	7	@ 7½
Hogs, hard grain, 140 to 200 lbs	4¾	@—
Hogs, large, hard, over 200 pounds	4½	@ 4½
Hogs, small, fat	4⅝	@ 4¾
Veal, large, ₱ lb	7	@ 8
Veal, small, ₱ lb	8	@ 9
Lamb, spring, ₱ lb	8	@ 8½

Hides, Skins and Tallow.

Dry Hides are meeting with a steady market, with demand sufficient to readily ahsorb all desirable offerings. Prices for Wet Salted are being well sustained at the improved quotations last noted. Pelts are moving at unchanged values. Tallow is in fair request at prevailing prices.

Nothing hut select hides, clean and trimmed will hring full figures. Culls of all kinds, either from gruhs, cuts, hair slips, side hrands or murrain, are not always readily placed at the lower figures.

	Sound.	Culls.
Heavy Steers, over 56 lbs	— @10	— @ 9
Medium Steers, 48 to 56 lbs	9 @ 9½	8 @ 8½
Light Steers, under 48 lbs	8½@ 9	8 @—
Heavy Cow Hides, over 50 lbs	9 @ 9½	8 @ 8½
Light Cow Hides, under 50 lbs	8½@ 9	8 @—
Stags	6½@ 7	6 @ 6½
Wet Salted Kip	—@ 9½	— @ 8½
Wet Salted Veal	—@10	— @ 9
Wet Salted Calf	—@11	— @10
Dry Hides	—@16½	—@15½
Dry Kip and Veal, 11 to 16 lbs	—@13	—@12
Dry Calf, under 4 lbs	18 @19	16 @17
Pelts, long wool, ₱ skin		1 00@1 50
Pelts, medium, ₱ skin		70@ 90
Pelts, short wool, ₱ skin		40@ 60
Pelts, shearling, ₱ skin		15@ 30
Horse Hides, salted, large prime, each		2 75@——
Horse Hides, salted, medium		2 50@——
Horse Hides, salted, small		2 00@——
Horse Hides, dry, large		1 75@——
Horse Hides, dry, medium		1 50@——
Horse Hides, dry, small		1 00@——
Tallow, good quality		4 @4¼
Tallow, poorer grades		2¼@3¼

Bags and Bagging.

Market is quiet throughout, quotable values remaining nominally the same as previously given. Large quantities of Grain Bags will be carried into the coming season, both imported and domestic.

Bean Bags	$	4¼@5
Fruit Sacks, cotton		6½@7½
Fruit Sacks, jute, as to quality		5¾@7
Grain Bags, Calcutta, 22x36, spot		5⅛@5¼
Grain Bags, San Quentin, ₱ 100	4 50	@——
Wool Sacks, 4-lb	32	@——
Wool Sacks, 5½-lb	30	@——

Poultry.

Thore was considerable poultry carried over from previous week, both Eastern and domestic. Three cars of Eastern fowls were landed here early the current week, and several more cars are announced as due within the next few days. Market for most kinds showed weakness, large and fat Chickens, Ducks and Geese proving about the only noteworthy exceptions. Demand for Turkeys was very light. Large Young Pigeons in fine condition sold to fair advantage.

Turkeys, Young, ₱ lb	$ 18	@ 22
Turkeys, live gobblers, ₱ lb	14	@ 15
Turkeys, live hens ₱ lb	15	@ 16
Hens, California, ₱ dozen	4 50	@ 5 00
Hens, large	5 00	@ 6 00
Roosters, old	4 50	@ 5 00
Roosters, young (full-grown)	5 00	@ 5 50
Fryers	3 50	@ 4 50
Broilers, large	3 00	@ 3 50
Broilers, small to medium	2 50	@ 3 00
Ducks, old, ₱ dozen	4 50	@ 5 00
Ducks, large young, ₱ dozen	4 50	@ 6 00
Geese, ₱ pair	1 50	@ 1 75
Goslings, ₱ pair	1 75	@ 2 00
Pigeons, old, ₱ dozen	1 25	@——
Pigeons, young	1 75	@ 2 25

Butter.

The wet weather of the past week caused buyers to hold off as much as possible and in consequence there was an easier tone to the market, in spite of the fact that the rains have dostroyed dry feed. In all probability there will be less strictly choice fresh on the market a fortnight hence than there is to-day. Cold storage butter is being drawn upon heavily.

Creamery, extras, ₱ lb	28	@29
Creamery, firsts	25	@26
Creamery, seconds	21	@23
Dairy, select	24	@26
Dairy, firsts	22	@23
Dairy, seconds	18	@20
Mixed Store	14	@—

Cheese.

Market is well supplied with flats, especially with other than fancy mild new, and for the general run of offering is lacking in firmness. Young Americas are in ample stock for the limited demand.

California, fancy flat, new	9½	@10
California, good to choice	9	@ 9½
California, fair to good	8½	@ 9
California, "Young Americas"	10	@11
Eastern	10	@13

Eggs.

Not many fresh eggs arriving, nor is the demand for them very active at the recent comparatively stiff prices asked. The trade is running mainly on cold storage and Eastern eggs. Eastern cold storage are offering in carload lots at 22½@25c., and California cold storage are jobbing at 25@28c. Many of the fresh eggs now arriving are weak in body, owing to poor condition of the hens.

California, select, large, white and fresh	38	@—
California, select, irregular color & size	30	@34
California, good to choice store	26	@30
Eastern firsts	23	@25
Eastern seconds	20	@22

Vegetables.

Nearly all kinds of vegetables showed materially reduced receipt, serious damage having resulted from the rains to most of the crops now outstanding. A generally firmer tone prevailed, changes in values being mainly to higher figures. There was a decided improvement in prices for Tomatoes, Beans, Summer Squash and choice Corn. Market for Onions was slow and unfavorable to sellers.

Beans, Lima, ₱ lb	2½@	3½
Beans, String, ₱ lb	2½@	3½

Cabbage, choice garden, ₱ 100 lbs	75	@	1 00
Corn, Green, ₱ crate	1 00	@	1 50
Cucumbers, ₱ box	40	@	65
Egg Plant, ₱ box	40	@	65
Garlic, ₱ lb	4	@	4½
Okra, Green, ₱ box	40	@	65
Onions, Yellow Danver, ₱ ctl	1 00	@	1 20
Onions, White, ₱ ctl	95	@	1 00
Peas, sweet garden, ₱ lb	3	@	4
Peppers, Green, ₱ box	40	@	65
Summer Squash, ₱ box	50	@	75
Tomatoes, box	30	@	75

NOTE.—Large boxes are what are known to the trade as "pay boxes," which have to be returned or paid for. They are open top, with hand holes in the ends, and weigh when filled from 50@60 lbs gross. Small boxes are free boxes, about the same as the regular fruit box, weighing when full from 20 to 30 lbs. gross.

Potatoes.

There was no very active demand for potatoes, but receipts aggregated lighter than preceding week and market in consequence presented a slightly better tone. Sweets were in fairly liberal supply, with the inquiry only moderate, and the market in the main favorable to buyers.

Salinas Burbanks, ₱ cental	1 00	@	1 40
Potatoes, white, ₱ cental	60	@	85
Sweet Potatoes, ₱ cental	1 00	@	1 25

Fresh Fruits.

Apples of common quality were obtainable at low figures, sellers being anxious to clean up on this class of stock. Some very ordinary went to peddlers as low as 25c. per box. Choice to fancy Apples, however, were not in heavy supply, nor were they crowded to sale, the market ruling firm for this description, and is likely to so continue throughout the season. Bartlett Pears now offering are mostly cold storage holdings, and for desirable qualities full current figures are readily obtained. Winter Nelis Pears are in fair supply and not yet in very active request. Cooking Pears move slowly at a low range of prices. The Peach season is nearly ended; present offerings include few choice, and only latter sort is specially inquired for. Plums are practically out. Some Silver Prunes in fine condition brought $1 per box. Figs were in light receipt and light demand. Pomegranates met with a slow market. Grapes were in reduced receipt, both Table and Wine, and for choice the market was firmer, while seriously rain-damaged stock had to go at low prices. Cantaloupes and Nutmeg Melons brought improved figures early in the week, but later on declined. Watermelons moved slowly and at generally low prices. Berries of most kinds were in light supply, and it was the exception where they did not show more or less damage from rain; poor met with a slow and weak market.

Apples, fancy, ₱ 50-box	1 25	@	1 50
Apples, good to choice, 50-lb. bx	1 00	@	1 25
Apples, fair to good, ₱ box	65	@	1 00
Cantaloupes, ₱ crate	75	@	1 25
Grapes, Black, ₱ crate	35	@	65
Grapes, Muscat, ₱ crate	40	@	75
Grapes, Seedless, ₱ crate	65	@	80
Grapes, Tokay, ₱ crate	50	@	90
Grapes, Isabella, ₱ crate	50	@	85
Grapes, large open boxes	65	@	1 25
Huckleberries, ₱ lb	8	@	9
Nutmeg Melons, ₱ box	40	@	65
Peaches, ₱ small box	40	@	90
Pears, No. 1 Bartlett, ₱ 40-lb box	1 35	@	1 50
Pears, Bartlett, No. 2, ₱ box	75	@	1 00
Pears, Winter Nelis, ₱ box	60	@	1 25
Pears, Cooking, ₱ box	40	@	75
Persimmons, ₱ regular box	75	@	1 00
Pomegranates, ₱ small box	50	@	75
Pomegranates, ₱ large box	1 00	@	1 50
Quinces, ₱ box	40	@	60
Raspberries, ₱ chest	5 00	@	8 00
Strawberries, large, ₱ chest	5 00	@	8 00
Watermelons, ₱ doz	1 00	@	2 50

Dried Fruits.

Conditions in the market for dried and evaporated fruits have not changed to any great degree since date of last review. For most kinds there is a firm tone, Prunes being about the only noteworthy exception in the line of tree fruits. Demand for Prunes is not active, either for Old or New, and quotable values show a further shading of about ⅛c on all except largest and smallest; latter were previously so extremely low as to scarcely admit of any further cutting, without giving them away outright. At prices which small Prunes have been lately selling, growers certainly find it difficult to get back a new dollar for an old one. That this unprofitable state of affairs can long continue does not seem possible. There has been fairly active inquiry lately for Peaches, Pears and Apricots. In the line of Peaches, common qualities are in lightest stock, while on Pears and Apricots the most urgent demand is for high grade fruit. Nectarines have been selling to very fair advantage, in sympathy with Peaches. Market for Figs is without quotable change, but for common qualities is not noteworthy for firmness. The ship Port Elgin, clearing Tuesday for London, carried 134,576 lbs. Prunes.

EVAPORATED OR BLEACHED.

Apples, 50-lb boxes, rings, pressed, good to choice	5½	@	6
Apples, extra choice to fancy, 50-lb boxes	6	@	6½
Apricots, Moorpark	8	@	10½
Apricots, Royal, good to choice, ₱ lb	7½	@	8½
Apricots, Royal, fancy	9	@	10
Figs, 10-lb box, 1-lb cartons	.50	@	65
Nectarines, Red, ₱ lb	5	@	6
Nectarines, White and Yellow	5½	@	6½
Peaches, unpeeled, good to choice	6¼	@	6¾
Peaches, unpeeled, fancy to extra fancy	7½	@	8½
Pears, standard, ₱ lb	6	@	6½
Pears, choice to fancy	7	@	10
Plums, Black, pitted	5½	@	6½
Plums, Red, pitted	6½	@	8
Plums, Yellow, pitted	6½	@	7½
Prunes, Silver, good to fancy	3½	@	7

Prunes, in bags, 4 sizes, 1¼@1½c; 40-50s, 3¼@3½c; 50-60s, 2½@2¾c; 60-70s, 2@2¼c; 70-80s, 1½@1¾c; 80-90s, 1@1¼c; 90-100s, ¾@⅞c; small, ⅜@⅝c.

COMMON SUN-DRIED.

Apples, sliced	3¼	@	4½
Apples, quartered	3½	@	4½
Figs, White, in bulk	2½	@	3
Figs, Black	2½	@	4

Raisins.

There is a moderate movement in Raisins of last crop, mainly within range of 2@2¼c for loose Muscatels and 1¾@2¼c for Malagas. Seeded of 1903 are held at 4@4½c for choice to fancy 16 ounces and 3¾@3⅞c for 12 ounces. Most of the new crop was secured before the recent rains, 1¾@2c being paid in the sweat box in the Fresno district.

CROP OF 1904.

(Fresno delivery except otherwise specified,)

London Layers, 2-crown, 20-lb box	87½	@	——
London Layers, 3-crown, 20-lb box	90	@	——
Fancy Clusters, 4-crown, 20-lb box	1 35	@	——
Dehesas, 20-lb box	1 85	@	——
Imperials, 20-lb box	2 25	@	——
2-Crown Standard loose Muscatel			2¾c
3-Crown Standard			3¼c
4-Crown Standard			4 c
Seedless Thompsons			4¼c
Seedless Sultanas			3¼c
Fancy, 16-oz. Seeded			5½c
Choice, 16-oz. Seeded			4¾c
Fancy, 12-oz. Seeded			4¾c
Choice, 12-oz. Seeded			3½c
Bleached Sultanas, Woodland Dist., 50's			3½@5c
Bleached Thompsons, Woodland Dist., 50's			4½@8c

Citrus Fruits.

Late Valencia Oranges are offering in moderate quantity, with demand slow and asking prices slightly lower than last quoted. Market for Lemons has been rather quiet the current week and without special firmness, especially for other than most select. Limes continued to be offered at last quoted decline and movement in them not very brisk.

Oranges, Valencias, ₱ box	2 25	@	3 50
Lemons, California, select, ₱ box	3 00	@	——
Lemons, California, good to choice	2 50	@	2 75
Lemons, California, fair to good	1 25	@	2 50
Grape Fruit, ₱ box	2 00	@	3 00
Limes, Mexican, ₱ box	4 50	@	5 00

Nuts.

Despite light offerings of Almonds and a very small crop, it is difficult to realize from wholesale handlers much over inside quotations. Prices for new crop Walnuts were fixed last Saturday by the Growers' Association of southern California as quoted below. Peanuts are being very steadily held. New California Chestnuts sold at 20c per pound.

Nonpareil Almonds	13	@	15
I X L Almonds	12½	@	14
Ne Plus Ultra Almonds	12	@	13
Languedoc Almonds	9½	@	10½
Peanuts, fair to prime	5	@	5½
Cal Walnuts, No. 1 soft shell	11	@	—
Cal. Walnuts, No. 2 soft shell	9	@	—
Cal. Walnuts, No. 1 hard shell	10½	@	—
Cal. Walnuts, No. 2 hard shell	8½	@	—

Wine.

There is a firmer tone to the market for last year's dry wines, but no appreciable advance has been established in quotable values, which remain at 15@18c. per gallon wholesale. To buy freely, however, it is likely a higher range of prices would have to be paid. This year's output of dry wines promises to be much lighter than last season and the quality not so good. Market for sweet wines is quiet and easy in tone, with 30c. per gallon asked for last year's vintage at the wineries. Dry wine grapes are quoted at $13@18 per ton, some selections commanding in a limited way for special deliveries an advance on latter figure. The quotable range on sweet wine grapes is $8@$12 per ton, where purchases are being made by interior wineries. The steamer Oregonian, sailing Sept. 22nd, carried 575,000 gallons wine for New York, one of the heaviest shipments ever made from this port. The steamer Peru, sailing Sept. 24th, carried 115,100 gallons, mostly for New York. Receipts of wine at San Francisco last week, 297,250 gallons.

Apples in England.

This year's fruit harvest throughout England is the most abundant ever known. Apples are showing a record crop. There is a glut of this fruit in the market. From Tasmania alone some 20,000 to 30,000 boxes are arriving weekly, and these are reported superior to the apples from Spain and Portugal. Huge quantities are arriving from Italy, and prices are quite disorganized. New season English apples, Keswick codlins, can be bought at 3 shillings (72 cents) a half bushel, and Australian apples are quoted as low as 2 shillings (48 cents) a case, which must mean a loss to the shippers on every case sold. The American fruit is in fair demand considering the state of the market. There is no longer any question about the demand for and popularity of American apples in England. Sales will steadily increase and the trade will be more than ever a profitable one.—Jos. G. Stephens, Consul, Plymouth, England, July 27.

Produce Receipts.

Receipts and exports of leading cereals and other California products for the past week and for the season to date, as compared with the corresponding time the previous year, are as follows:

FOR THE WEEK.		Since July 1, 1904.	Same time last year.
Flour, ¼ sks	86,940	1,158,161	1,545,463
Wheat, ctls	169,422	695,309	524,206
Barley, ctls	60,710	900,547	1,996,948
Oats, ctls	52,867	287,109	389,607
Corn, ctls	1,185	20,804	40,487
Rye, ctls	1,811	16,827	19,973
Beans, sks	7,461	49,264	69,168
Potatoes, sks	31,314	297,538	295,517
Onions, sks	5,414	41,357	50,312
Hay, tons	4,544	61,410	66,296
Wool, bales	1,802	15,574	15,489
Hops, bales	4,034	5,522	4,467

EXPORTS BY SEA.

FOR THE WEEK.		Since July 1, 1904.	Same time last year.
Flour, ¼ sk	109,308	917,140	1,074,692
Wheat, ctls	529	63,943	164,389
Barley, ctls	8,751	409,894	1,344,474
Oats, ctls	271	4,903	8,429
Corn, ctls	1,551	6,056	4,273
Beans, sks	13,283	20,572	6,414
Hay, bales	2,350	85,916	45,372
Wool, lbs	.....	704,522	1,260,659
Hops, lbs	364	19,066	130,036
Honey, cases	80	414	272
Potatoes, pkgs	4,086	25,845	20,414

Foreign Fruit Products and Prices.

PRUNE CROP OF HUNGARY.—Report of Frank Dyerchester, consul, Budapest, August 23, 1904:

It is reported that in June 3500 carloads of prunes from Bosnia and 4000 from Servia were expected on the south European market, but owing to the severe drought in July—still on—a large crop of small fruit will be the result. The crop of the previous year is entirely used up. The net prices "ab station" for 1904 prunes have risen, therefore, 2 crowns (41 cents) per 100 kilos (220 pounds), and prices quoted cif New York are as follows: 110–120, 95–100, 80–85, equal quantities of like brand, 26½ shillings ($6.44) per 100 kilos (220 pounds) via steamer from Fiume.

PRUNE CROP OF FRANCE.—Report of Albion W. Tourgee, consul, Bordeaux, August 25, 1904:

All fruits are abundant and of superior quality this season, and an early and large vintage is promised. Prune crop is estimated at 55,115,000 pounds. This is above the usual quantity. Fruit not large, averaging 70 to the pound. Quality excellent, the dry weather of the past six weeks having developed the sugar in the prunes to an unusual degree. No prunes of this year's crop in the market yet, and prices are not certain.

WALNUT CROP OF HUNGARY.—Report of Frank Dyerchester, consul, Budapest, August 23, 1904:

Crop for 1904 in Hungary, Austria and Bosnia–Herzegovina will be a little better than a middle crop. The nuts will be small and dry-meated on account of the drought. Low prices will prevail, say 12 to 18 crowns ($2.43 to $3.65) per 50 kilos (110 pounds) "ab station." An average addition to the net price of 1½ crown (30 cents) must be made for getting the walnuts to Budapest. Freight varies from Budapest to New York according to the rates fixed by the steamship lines. A Budapest firm quotes walnuts for October or November delivery cif New York at 21 and 22 crowns ($4.26 and $4.46) per 50 kilos (110 pounds).

RAISIN CROP OF VALENCIA AND DENIA.—Report of J. L. Byrne, deputy consul, Valencia, August 26, 1904:

All previous estimates of the crop have been completely upset by unfavorable weather, and the total yield will not exceed 380,000 hundredweight, against 465,000 hundredweight last season. Opening prices are quoted to-day at 50 pesetas per 100 kilos, which gives the following equivalents in United States currency:

	Cents per Kilo (2.20 Pounds) cif New York.
Off stalk	8 3-5
Fine stalk	9 1-10
Finest stalk	9 3-5
Selected stalk	11
Layers (4 crown)	11 2-5

Fruit is small but quality excellent. No shipments have been made to the United States yet, because of the low prices at which California growers are selling home raisins.

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	United States	.125
	Empire	.450

The report was signed by Robert Crickmore, Creamery Mgr.; A. W. Trow, Pres., Minn. Dairymen's Ass'n.; and E. J. Henry, Babcock Tester Expert, the judges mutually agreed upon. Write for complete report and catalog E-131.

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Alfalfa and Grain for Pig Feeding.

The Agricultural Experiment Station at Lincoln, Neb., sends us an outline of their recent experiments in fattening pigs and wintering brood sows on alfalfa and a grain ration. The feeding experiment consisted in using cut and ground alfalfa in connection with corn and other grains. The experiment was undertaken in co-operation with a company in the Platte valley, where the leading question in pork production is to grow pork with a maximum ration of alfalfa and a minimum grain ration. The alfalfa hay was run through an ensilage cutter, chopping into lengths of ½ inch. The ground alfalfa was made by running through a grinder. Alfalfa was to be compared with shorts and with bran when either one-half or three-fourths of the food was cornmeal. These mixed feeds were also compared with a straight corn ration.

The corn was ground so that it might be mixed better with the cut or ground alfalfa, and all was moistened with water before feeding. This prevented the feed from being blown by the wind, and induced the pigs to eat up the alfalfa better than they would otherwise have done.

The records of the trial show that the largest daily gains were made on three-fourths corn and one-fourth shorts, but that a gain practically equivalent was made at a lower cost where either cut or ground alfalfa was substituted for shorts in the ration.

Bran does not prove equal to either shorts or alfalfa when fed as one-quarter of the ration to pigs.

A ration three-fourths corn and one-fourth alfalfa produces greater gains than when one-half alfalfa is fed. Where alfalfa is raised on the farm, and where there is no particular need to hasten growth in the pigs, a ration one-half alfalfa hay and one-half corn may give cheaper gains than when a heavier corn ration is fed.

Hogs which have been raised largely on alfalfa pasture will learn to eat the hay in winter without cutting with a machine and to depend largely upon it where only a limited grain ration is fed; but a ration wholly alfalfa does not seem to give economical results.

This experiment shows that cut or ground alfalfa can be substituted for shorts at the same price in fattening pigs.

Feeding Alfalfa to Brood Sows.—Along with the foregoing experiment two lots of brood sows were fed for a period of eight weeks, until some of them commenced to farrow.

One lot of twenty-two young sows was fed one-half corn and one-half ground alfalfa, while another similar lot was fed one-half ground barley and one-half ground alfalfa. Both these lots made fine gains and at farrowing time produced large, strong litters, showing that the ration had been nearly ideal as a ration for brood sows.

A lot of thirteen mature brood sows, weighing 258 pounds each, were also placed on a ration of one-fourth corn and three-fourths alfalfa. They consumed two pounds of corn per day and six pounds of cut alfalfa. They continued on this ration throughout the winter, during the first five weeks without the withdrawal of any animals. These sows commenced to drop litters after the fifth week, so that records could not be kept after that time. At the end of the fifth week on the above ration the sows weighed an average of 264 pounds. As their weight one week earlier was a little less than the original weight, it may be assumed that these hogs got an extra good fill before the last weight and that the ration fed was practically a maintenance ration. These sows kept in fine condition, farrowing during February and March and saved large litters in every case. They were fed a ration one-half corn or barley and one-half alfalfa while suckling pigs.

These several experiments, including 113 animals in all, give excellent proof of the high nutritive value of alfalfa supplemented by a small corn ration.

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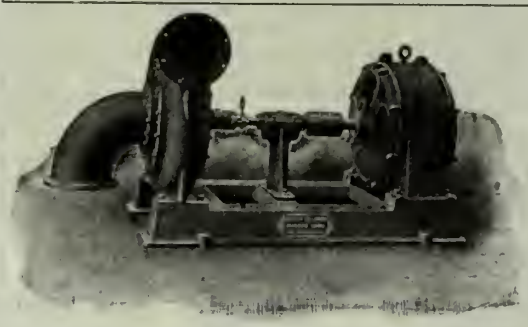


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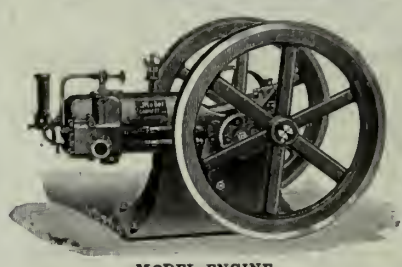
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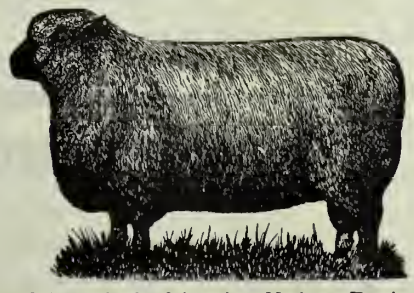
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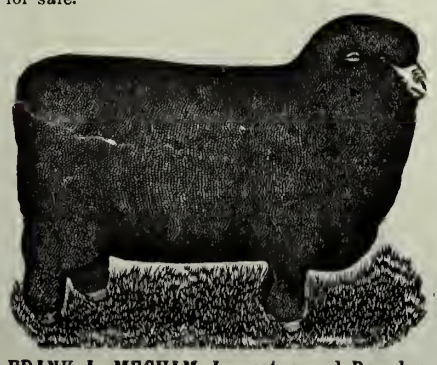
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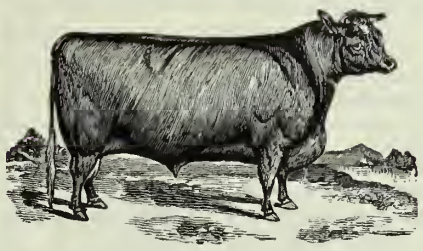
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Beware of so-called Elixirs. Tuttle's only is genuine. Avoid all blisters, they are only temporary relief.

THE IRRIGATOR.

A State Irrigation Convention.

To the Editor:—You are cordially invited to be present at the California State Irrigation Convention to be held in Modesto, Stanislaus county, Cal., on the 18th day of October, 1904, beginning at 10 A. M. Enclosed herewith you will find a copy of the official call for said convention. No effort is being spared to make this convention one of great interest and importance to all irrigationists, and to every one who is in any way benefited by irrigation. There can be no work of greater importance to the State than uniting all irrigationists of the State into one organized body for the purpose of protecting the irrigation interests of our commonwealth If we are to secure State and National aid; if the consumers of water are to get control and retain control of the natural water supply of the State, then all must come together and assist our organization to grow stronger and broader in its efforts to protect the interests of the people. Able speakers will be present to discuss these matters of so great concern to us. Geo. T. McCabe,
Secretary of General Committee.

THE OFFICIAL CALL.

General farming by means of irrigation in the arid and semi-arid sections of California has grown to such proportions as to demand increased consideration from our State Legislature and from the Federal Government as well.

The great State of California is among the number included in the national irrigation Act passed by Congress for the purpose of reclaiming arid lands in certain of the States and Territories.

The attention of agriculturists, horticulturists and stock raisers all over North America is centered upon the West, and especially California, and it should be the duty of all Californians to bring their State to the standard and rank which it evidently holds in the minds of the many visitors who view its grand exhibits at the St. Louis Exposition.

It is certainly our duty to first help ourselves by precept and example, that our Representatives in Congress may more consistently request national attention and assistance.

Therefore, that the California State Irrigation Association may be made more perfect in its organization, that its power for effective work may be facilitated, that its influence with the State and National Governments may be augmented and that the purposes for which it was created may become universally known, understood and appreciated by all, this convention is called in accordance with a resolution passed by the State Irrigation Association when it was formed at Modesto, Stanislaus county, Cal., in April, 1904, to meet again in Modesto, Stanislaus county, Cal., on the 18th day of October, 1904, at the hour of 10 o'clock, A. M., and that the delegates to attend said convention be chosen as follows:

For each organized irrigation district, five delegates.

For each Board of Trade or Chamber of Commerce in counties where irrigation is practiced, five delegates.

For each association organized for the promotion of irrigation or protection of water consumers, five delegates.

For each university in the State, five delegates.

For each Board of Supervisors in counties where irrigation is practiced, the same to be appointed by the County Clerk of said county in the event its board does not meet before the date of said convention, five delegates.

And it is further directed that the several County Clerks, and the clerks of the boards of directors of the several irrigation districts be requested to give notice of local meetings for the purpose of selecting the delegates aforesaid in the respective counties and districts.

A. M. Drew,
President California State Irrigation Association.

Fresno.

Irrigation in Northern Italy.

Irrigation has been practiced by English speaking people in this country little more than fifty years, and in Italy for more than 500 years. It is, therefore, natural that Italian experience should be able to show much of value to American irrigators. For the purpose of determining what could be learned in that country which could be applied to our own problems, Dr. Elwood Mead, Chief of Irrigation and Drainage Investigations of the Office of Experiment Stations, U. S. Department of Agriculture, spent the summer of 1903 in the valley of the Po. A partial report of Dr. Mead's observations has just been issued by the Department of Agriculture as Bulletin 144 of the Office of Experiment Stations. No attempt was made to make this an exhaustive monograph upon irrigation in northern Italy, but the study was made solely from the standpoint of obtaining suggestions for American irrigation practice.

Contrary to a very common opinion, the valley of the Po is not an arid region. The annual rainfall at Milan, the chief city of Lombardy, is more than 40 inches, greater than that of Cincinnati, Ohio, or Omaha, Neb., both of which are situated in regions where irrigation is seldom considered in connection with agriculture. The climate of Lombardy is not different from that of the Mississippi valley, and the crops raised, with few exceptions, are the same. Notwithstanding this large rainfall and the fact that crops can be successfully raised without irrigation, the plains of Lombardy are a network of canals and drains. To secure the construction of one of these canals, the city of Milan gave a bonus of $400,000. This canal cost $6,000,000, or $37.50 for each acre of land that can be served by it. It supplies water to 8000 farmers, who pay from $1 to $2 per acre per year for water. Some of this land supports as many as 800 people per square mile, and has increased in value since the building of the canal from 60% to 100%, land which formerly sold for $100 being worth from $160 to $200 per acre.

Under the Vettabbia Canal which uses the sewage from Milan, meadows yield an annual crop worth $300 per acre. Some of the fields have been used for meadows continuously for 700 years. Annual rentals for these lands are more than $25 per acre. Sewage has been used on these fields for centuries without injury to the lands or to the healthfulness of the community. This great rise in land values and increase in productivity of lands, due to irrigation, in a region with a rainfall equal to that of the southern half of the Mississippi valley and a climate no more favorable to crop production, leads to the conclusion that in irrigation this section has a means of at least doubling the present yield from its lands.

In Piedmont, which has an annual rainfall of more than 30 inches, or about the same as eastern Nebraska and Kansas, the Italian Government has built nearly a thousand miles of canals and expended about $20,000,000 for irrigation works. The annual income from the Government canals in this Province is nearly $600,000. Pumping plants have been established to raise the water to lands above the Government canals. One of these was put in at an expense of $47 per acre for the lands irrigated, in addition to which the farmers are required to pay the annual maintenance expense and $82 per year for a cubic foot of water per second. Irrigated land supplied by this pumping plant is worth three times as much as unirrigated land adjoining. Under another pumping plant the annual expense to the farmers is $5.80 per acre, in addition to $10 per year for a sinking fund, making an annual charge upon the farmers of nearly $16 per acre. And this also in a region where crops can be raised successfully without irrigation.

The Italian Government disposes of water directly to farmers at retail in some sections, and in others sells it to co-operative associations of farmers. One such association has 14,000 members, operates 9600 miles of ditches, has 266 miles of telephone and telegraph lines, supplies water to 141,000 acres, and does an annual business of $600,000. Eighty water masters are employed by the association to distribute the water to its members The farmers of this association pay from $1.60 to $9 per acre per year for water, according to the distances of their land from the main canal and the crops raised.

In addition to giving information as to the organization of the industry in Italy, the bulletin describes the principal canals of Lombardy and Piedmont, and gives details as to the structures for diverting water and carrying it over or under the streams or canals crossed. Drawings and photographs of a large number of structures are given.

Italian engineers have given more attention to the measurement of water than any other body of men in the world. The bulletin describes the methods of measurement of water in use along the Po, and gives a general discussion of the subject of water measurement.

The most striking points brought out by the report are the large expenditures for irrigation in a region where crops can be raised without it, the enduring and expensive nature of the structures, and the efficient co-operation of irrigators in using water and in canal management. Along each of these lines Italian experience is full of suggestion for those interested in American irrigation.

Tall Corn Stalks.—H. H. and M. T. Smith have on exhibition at the entrance to the Hotel Grande two stalks of Indian corn, which were grown on the Woods-Frankeneau river bottom land, 3 miles north of Reedley. The stalks were 15 feet high, with two well-developed ears on each stalk. The distance between the upper and lower ear is about 3 feet, and the latter is beyond the reach of the ordinary man—Reedley Exponent.

New Patents.

Dewey, Strong & Co.'s Scientific Press Patent Agency, 330 Market St., S F., has official reports of the following U. S. patents issued to Paoific coast inventors:

FOR THE WEEK ENDING SEPTEMBER 13, 1904.

769,978.—Graining Machine — B. A. Augustine, Alameda, Cal.
770,215.—Containing Vessel—Blatz & Fales, Los Angeles, Cal.
769,886.—Gold Saving Apparatus—J. S. Bollinger, Cherokee, Cal.
769,981.—Oil Burner—H. B. Cary, Los Angeles, Cal.
769,856.—Water Tank — W. Curtis, Sacramento, Cal.
769,890.—Washing Machine—E. L. Davis, Santa Rosa, Cal.
769,998.—Gravity Tramway Block—A. D. Foote, Grass Valley, Cal.
770,058.—Wrench—W. P. Foster, Jacumba Springs, Cal.
770,060 —Jar Closure—C. Fricke, S. F.
770,003.—Bedclothes Clamp—A. Grandjean, National City, Cal.
769,901.—Steam Generator — B. Hall, Nevada City, Cal.
769,747.—Paper Feeder—J. W. Hoag, S. F.
769,909.—Weighing Machine—A. W. Livingston, Alameda, Cal.
769,910.—Fish Trap—O. Melbye, Cypress Island, Wash.
769,953.—Water Heater—G. H. Minier, Pasadena, Cal.
769,830.—Shut Off—J. G. Nehrbas, Seattle, Wash.
769,768.—Lock—B. Phelps, Seattle, Wash.
769,769.—Lock—B. Phelps, Seattle, Wash.
769,770 —Lock—B. Phelps, Seattle, Wash.
770,105.—Band Saw Guide—A. Pracna, Everett, Wash.
769,832.—Weed Cutter—L. C. Preston, Weston, Or.
770,115.—Dental Appliance—F. C. Rood, Walla Walla, Wash.
769,876.—Reversible Wagon Seat—M. A. Schuster. Newman, Cal.
769,877.—Umbrella Frame — P. Sergo-Kissiow, Portland, Or.
769,963.—Toilet Paper Holder—A. E. Sexton, Los Angeles, Cal.
770,127.—Condenser—O. S. Still. Annette, Cal.
769,965.—Harvester — J. Trethewey, Stockton, Cal.
769,968.—Head Gate for Ditches—W. J. Warren, Modesto, Cal.
770,137.—Paving Composition—H. F. Williams, S. F.

Boston, April 27, 1893.

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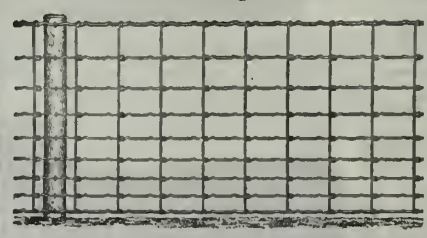
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AGRICULTURAL SCIENCE

Killing Field Mice With Disease Germs.

From United States Consul GEORGE H. JACKSON, La Rochelle, Franec.

A part of this consular district, principally the southern section, has been invaded by immense numbers of "campagnols," or field mice (Arvicola agrestis). The presence of this diminutive pest has caused serious concern in the agricultural districts, for the powers of destruction possessed by one of the creatures are tremendous. It not only destroys immense quantities of living vegetation in seeking its food, but lays away an ample stock for winter consumption. There is scarcely a living plant within its reach that is not eaten or destroyed by it.

It has been calculated from experiments that each adult field mouse eats two-thirds of an ounce to one ounce of living plants a day, which means a consumption of from sixteen to twenty-four pounds a year. According to the same calculations, if we consider the loss by destruction at only one-half of the quantity consumed, we have a loss of from twenty-four to thirty-six pounds a year for each little field mouse.

According to the statement of a local newspaper, in the experiments made during the month of February last in the Department of the Charente, Mr. Chamberland of the Pasteur Institute estimated that the average number of field mice to be found at that time upon a hectare (2.47 acres) was 1350. They consumed annually at least thirteen and one-half tons of vegetable matter. In 1893, in the region of Bar-sur-Seine, according to another expert, there were more than 10,000 field mice to the hectare.

It will be seen, then, that the anxiety among the farmers is justified Such an increase in the number of mice as would naturally be expected would permit them to eat absolutely every bit of living vegetation that a field could produce during the season.

To destroy these pests, people formerly resorted to asphyxiation by filling the burrows with smoke or to drowning by pouring water into them, or to sowing poison about the fields. The latter method, though the most efficient, proved so dangerous to domesticated animals that it was resorted to only in exceptional cases. At the present day another method is used, which is considered much more efficacious—infection by a microbe which is deadly to rats and mice only, domesticated animals being immune to its influence. In 1893 Dr. Danysz of the Pasteur Institute, while studying the habits of field mice in the Department of Seine-et-Marne, observed that large numbers of mice died apparently from disease. He collected virus from sick animals, made cultures, and assured himself that these cultures absorbed with the nourishment produced the disease in healthy rats and mice. These experiments were made on a large area—nearly 200 acres—and seemed conclusive to the experts. This method of destruction has been recently commenced and carried out systematically on a surface of 2800 acres, and has proved able to accomplish the destruction of the mice, while the game, fowl and other animals of the farm were in no instance affected.

The seriousness of the situation is emphasized by the fact that the French Parliament appropriated 295,000 francs ($56,935) to be used for the destruction of the mice. The virus, which is furnished free to departments and townships, is supplied from this fund and is sent directly to the regions affected. The virus is then distributed and mixed with four times its volume of slightly salted water. In this liquid crushed oats are soaked. The oats are then distributed in suitable places near the burrows in such a way as to contaminate as many families or groups as possible at one time. When this has been done, ten or twelve days afterward what is estimated at 95% of the mice have been found dead in the fields.

One would expect from these results that the work would be quickly done, but the "campagnols" are great travelers, and may disappear from one locality to reappear suddenly in another, breeding with great rapidity. The work has been going on for some months, but there are reappearances in regions hitherto unaffected, and it is probable that the fight will continue for many more weeks.

If your lamp-chimneys break, say MACBETH to your grocer—loud!

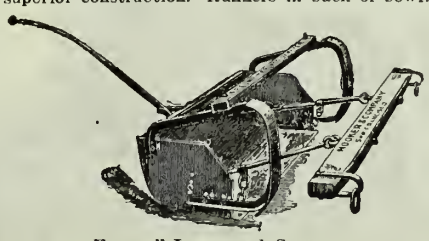
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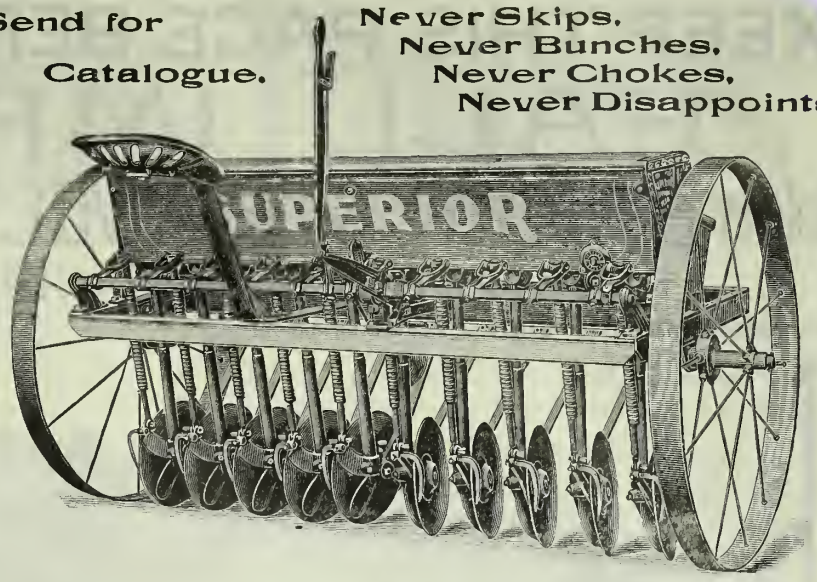
To the church women of California:

It is so hard for people to believe that Bright's Disease and Diabetes are now curable that I am asked to permit reference to my own case. I shrink from it, but there are too many dying to remain silent. To be brief, I had both Bright's Disease and Diabetes for over five years. Usual Dropsy, nails came off, and the case was so hopeless that the physicians told us there was no need to diet and to give me anything I craved. I heard that people were being cured in this city and procured the treatment. In a few months the nails came back, dropsy disappeared and in a year I was well. To show how well, will say that several years after my recovery I stood a capital operation at the Waldeck Sanitarium in the presence of six physicians. Many friends, including Dr. Markell of Cloverdale and Judge E. B. Cutler of Pine street, are fully cognizant of my recovery from Bright's Disease and Diabetes. In fact, Judge Cutler is himself now recovering from Diabetes under the same treatment. Let the cure be proclaimed to the world. MRS. S. E. CLINE.

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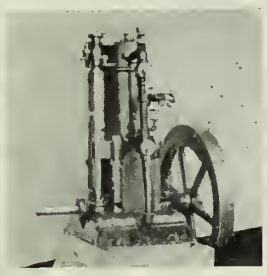
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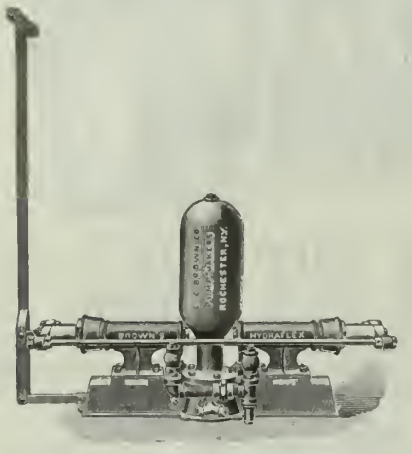
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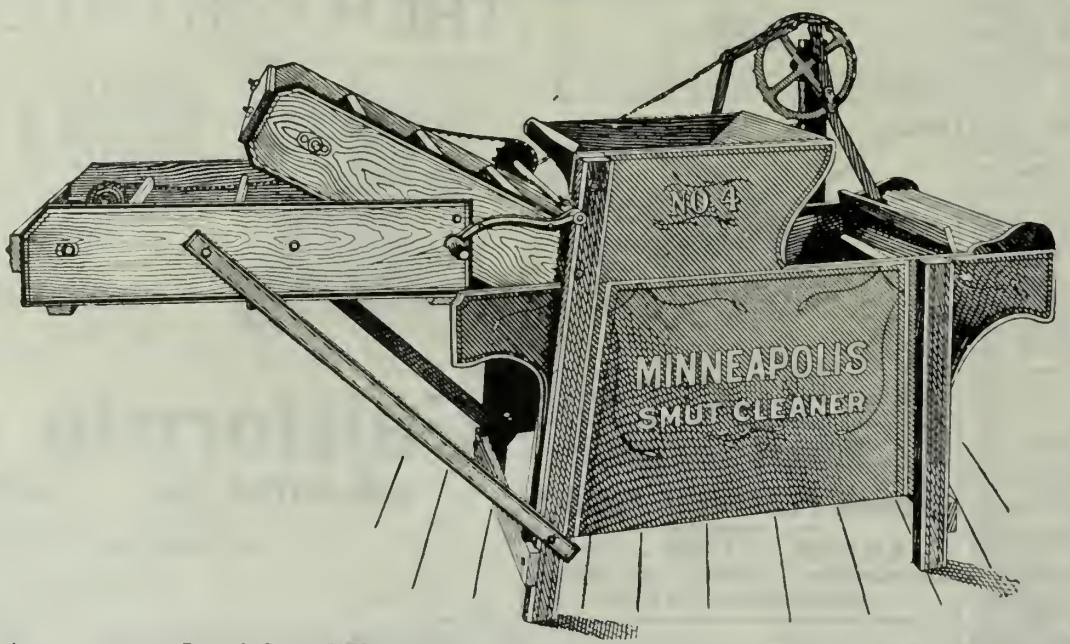
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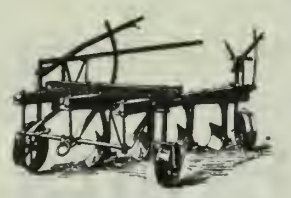


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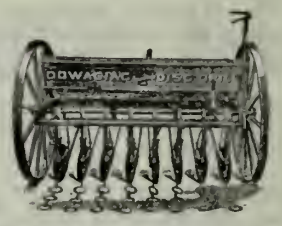


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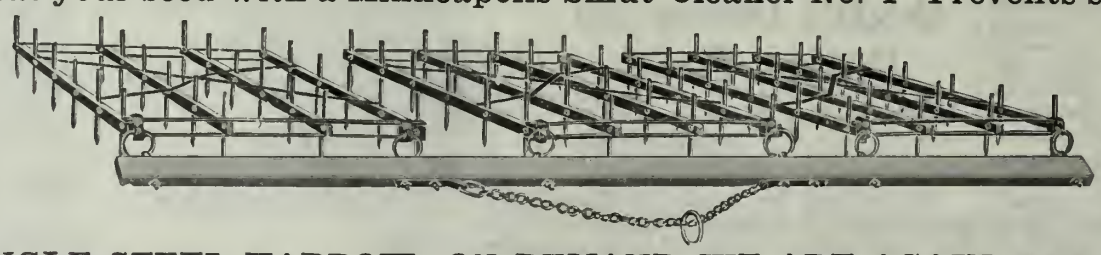


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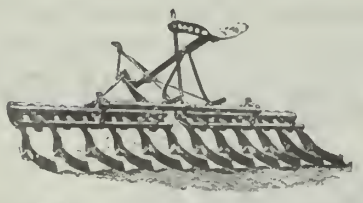


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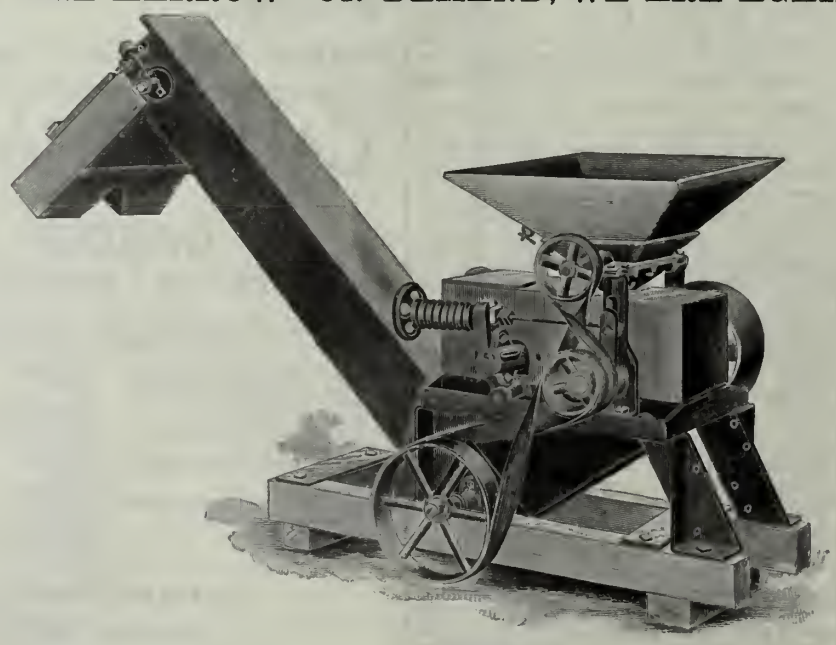
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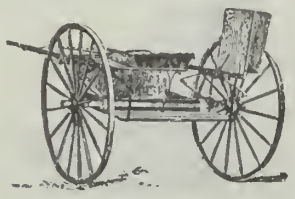


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Vol. LXVIII. No. 15. SAN FRANCISCO, SATURDAY, OCTOBER 8, 1904. THIRTY-FOURTH YEAR. Office, 330 Market St.

With the Sheep in Nevada.

We have already given several glimpses of sheep husbandry in Nevada, but have dwelt upon the country rather than the sheep which it supports. At this time we come nearer to the sheep and transfer to our columns a part of the ovine narrative which Prof. P. Beveridge Kennedy sets forth, in the recent bulletin of the Nevada Experiment Station, upon the summer ranges of eastern Nevada sheep:



Salting a Band of Wethers on an Eastern Nevada Sheep Range.

About the 1st of March the sheep leave the white sage flats in Nye and White Pine counties and come slowly northward through the valleys, obtaining water from the melting snow or by eating the snow itself. They usually reach the shearing grounds by the railroad about the 1st of April. Their chief feed at this time is the bud sage and the young grass sprouting from their stools. The sheep are then separated into ewe bands and wether bands, the ewes and their lambs of the previous year having run together during the winter. Those which have been bred to coarse-wooled bucks, like the Shropshires, are kept together to sell for mutton later, while those which have been bred to fine wooled bucks, like the Rambouillets, are kept as stock sheep. This is done in order to keep up the quantity and quality of the wool and, at the same time, obtain a fair price for the mutton. Two crops of wool are also obtained from each lamb, as they are not usually sold until about two years old, which differs from the practice in the Sierras, where the lambs are marketed when from four to five months old. Eastern Nevada sheepmen are unable to compete with the lambs raised on the Sierras, as their sheep lamb later, the country being colder in spring and the difference in the character of the forage preventing rapid development. The lambs also shrink too much in shipping, being too far from both the Eastern and Western markets. Different customs prevail as to the time of dipping and shearing, some preferring to dip before shearing and others after. The advocates of the latter method claim that the lime which is used in the dip mixture is harmful to the wool. When the mixture is properly made, however, no bad results need be feared. Those who dip before shearing claim that the sheep are weak at this time of the year and that dipping increases this weakness, and, if a cold storm comes when the sheep are not protected by their wool, they are apt to lose a great many.

Still others prefer to wait until after lambing before shearing and dipping, as, if there should be a cold spell, the ewes will stay with their lambs better. This, however, necessitates dipping the lambs also, and results in setting them back to a greater or less degree. In the case of Mr. Duborg, Beowawe, the sheep are sheared before lambing, if the weather permits. The custom is to make a contract with a shearing outfit, the price being seven cents per sheep with board, or eight cents per sheep without board, there being usually twenty to twenty-four men in an outfit. If the sheep are not too wrinkled, a good man will shear on an average about one hundred in a day.

The wool is of medium grade, having about 65% shrinkage. From six and one-half to eight pounds of wool per head is secured, according to the grade of the sheep. The wool is usually put up in sacks of from 275 to 350 pounds each and consigned to local warehouses in Reno and Elko or else sold direct to Eastern buyers, most of it going to Boston. In a few instances, where the wool has to be hauled some distance to the railroad, it is put up in bales. The price received by Messrs. Anderson & Duborg at Beowawe by selling to Eastern buyers direct was thirteen and one-eighth cents per pound. The warehouses usually sell by auction to the highest bidder, but a movement is on foot to do away with the middleman and sell the wool direct to the firms in Boston, the only expense being the storage and shipment to the warehouse.



Nevada Mountain Range Country, Showing Patches of Smooth-Leaved Sunflower.

After shearing, the sheep are driven about a distance of five miles to a natural hot spring where a dipping plant has been installed. The water from the spring is boiling and is carried through a ditch to the tank, as shown in the PACIFIC RURAL PRESS of September 17. When all the sheep have been dipped, the ewes start for their lambing grounds, and the wethers for their summer range. On account of the young sheep being separated from their mothers, it is necessary to have two men to take care of a band of 2500 or 3000 sheep. The camp tender has a wagon, pitches camp and cooks the meals, one camp tender attending to two bands. Dry ground on the lower foothills is selected for lambing purposes and five or six men are put in charge of each band. When lambing commences the sheep do not travel more than a mile a day.

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SAN FRANCISCO, OCTOBER 8, 1904.

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The Week.

The weather has quite successfully hedged upon preceding ventures and the result is that the injuries by the September soaking are much less than anticipated. Still, quite enough loss has been experienced to show that the common notion about the undesirability of an early heavy rain is about right. The city markets this week are put to the task of disposing of considerable amounts of damaged produce; but this nccessity is probably at its height this week, and would, therefore, give the casual observer an exaggerated idea of the injury. That which was hurt must be sold quickly; that which escaped will have the advantage later.

The political campaign is reaching its height also, and the voice of the campaign orator is heard in the land. Still, so far as California goes, at least, it may be a very cool affair, and the voter will have a quiet hour in which to meditate upon his duty. We do not remember a campaign in which less effort to mold men's minds has been apparent. This may be, on the whole, an advantage and an added laurel sprig for the brow of the victor He will evidently be an exponent of the sober thought of the American people. But though this be so we hope no one will forget to vote according to his convictions. Many questions are pending which should be settled according to the manifest desire of the people, and the vote is significant beyond the mere success of any particular candidate. This will do for our election sermon for this year. We have always preached and the cause has always advanced, though perhaps our causative influence therein may not be as great as the completed syllogism might indicate. In this respect we do not resemble the political journals, for they always save the country.

Spot wheat has steadily held about the same values as last week. Chicago futures have seesawed somewhat, but end a little under the starting point. Local futures have followed Chicago closely. There has been no charter made and only one ship has gone out, and that loaded with barley for Scotland, which may mean that the Scots are taking to a lighter liquor. Barley prices here are firm and unchanged, and the same is true of the lesser cereals. Alfalfa seed has at present quite a high asking price—up to 16 cents; Utah is still to hear from. Pink beans higher and active and others are unchanged, with a firm tone for all choice grades. Millstuffs are holding values, the combine working well. Choice hay is higher, but the market is weak for damaged lots. First-class beef is firm, but lower grades are weak, as there are many cows and other live stock arriving; mutton is unchanged and hogs are firm and active, though arrivals are free; packers are busy. Butter is heavy, except fancy fresh, and fine new cheese is in good call, while old is unchanged. A few fancy fresh eggs are selling well, but the trade is running on cold storage eggs with a fresh look and reputation. Young chickens are still about the same, though cleaning up better, while choice large old old fowls are in good demand. Young turkeys are in good shape, as are ducks and geese also. Potatoes and onions are slow and favor buyers. The latter ends of the autumn tree fruits are selling well—some peaches are coming from southern Oregon. The grape market has to dispose of much rain-hurt fruit. Valencia oranges are selling fairly; lemons are in good supply. Assorted carloads of dried fruits are going out quite freely on Eastern orders, and shipments to British Columbia, Asia and Australia are also going out. Almonds are quiet and the quality is off in many cases. The talk is also of damaged walnuts, but that may not amount to much. Honey is quiet; 1200 cases are in from Hawaii and sold to a local bottling company. Hops are stiff and 30 cents freely talked of. Very little unsold wool reaches this point.

The enterprise of certain firms in San Francisco and Sacramento in selling pound packages of prunes and raisins at five cents each is demonstrating one thing, at least, and that is the power of advertising. There are places in both cities, perhaps, where these dried fruits have been sold in small amounts as cheap as the new popular figure, but few people knew it, and have not used the fruits largely at the prices which ordinary retailers exact. Advertising spreads information of the cheapness of such very desirable food supplies and the rush naturally follows. If the same power could be wisely invoked in all centers of population, there seems no chance for doubt that consumption would be vastly increased and that the public health would also be measurably advanced.

As we go to press on Wednesday the California State Grange is in annual session in Oakland. There is a good attendance and manifestation of interest. The Worthy Master, Mr. H. C. Raap of Martinez, stated in his annual report that a net increase of 240 members had been made in the State during the year. Prizes were awarded as follows in a contest for membership: First, Mountain View Grange, Santa Clara county; second, Sunnyvale Grange, Santa Clara county; third, Geyserville Grange, Sonoma county. These are places where great earnest effort has been made and the fruits are apparent. The Grange needs sharp, progressive and aggressive work on the part of those who believe in it. This is the price of the success of any effort, nowadays at least, and the Grange must catch on. It must also learn, perhaps, that the frills are not the garment. If all the Granges would take the place in the public eye that Tulare Grange does, for instance, the membership would again be measured by tens of thousands.

In an address at the World's Fair on Tuesday of this week, Prof. Elwood Mead, chief of irrigation and drainage investigations, United States Department of Agriculture, stated that, according to the report of the United States census made in 1902, about 10,000,000 acres of land in the United States are now being irrigated. Of this 600,000 acres are in the rice fields along the Atlantic and Gulf coasts, 400,000 in the semi-arid region and 6000 acres in the humid States. The remainder is in the arid region of the West and Southwest. To water this area 59,243 miles of main canals and ditches have been constructed, while the laterals leading from these canals to the fields represent an aggregate length many times this distance. Mr. Mead stated that it is a conservative estimate to say that $200,000,000 has been expended in irrigation development in the United States. Some of our readers may desire to use these figures at the Modesto Irrigation Convention of October 18, and we give them at once as they come by telegraph. A fuller statement may be available later.

QUERIES AND REPLIES.

Behavior of Pear Blight.

To the Editor:—Will you kindly inform me as to the pear blight: (1) When it begins to run down the limb. Does it spread at all in summer? (2) At what season does it spread from tree to tree? Is it principally in the blossoming season, and does the blight enter the blossom (as it has sometimes seemed to me), or does it attack the leaf and twig as well? (3) On going through my orchard a few days ago I found two or three cases in which short shoots from the middle of large limbs were blighted; is the whole limb above the blighted shoot doomed? It showed no discoloration of bark, but may contain the undeveloped germs of the blight, I suppose. (4) How far does the blight travel? There is an orchard badly affected about half a mile north of mine. It has seemed to me that my orchard received the blight from that, especially as the north end first showed signs of the disease. Is this probable? (5) Does it not seem practicable by careful attention, especially at the critical seasons, to preserve a small orchard? And yet last year it spread with such rapidity that the task seems almost hopeless. (6) Can you give me a list of the varieties of pear found to be unaffected by blight; first, in the order of their resistance; second, in the order of their commercial value? (7) Can you tell me whether or not it is true that a parasite of the codlin moth has been discovered, as I read in the paper?—Fruit Grower, Tehama county.

The pear blight continues to extend itself down the limb while the sap is flowing freely. As the growth hardens its progress is arrested. The blight then is usually active for a longer season in trees that have plenty of moisture and is arrested in its course by drying out of the soil and the early dormancy of the tree. For this reason the spread of the blight in well cultivated trees, or those which are growing vigorously with abundant moisture from overflow of irrigation, is greater than in neglected trees, and it may be somewhat of a question in our pear growing in the future as to how far the tree can be neglected to check the blight and at the same time bear a profitable crop.

The pear blight spreads principally in the blooming season and is introduced and carried from diseased blossoms to healthy ones by the bees—possibly by other insects also. It may enter the leaf and twig at any point where an opening may be made by an insect or otherwise. It does occur on the leaves or twigs, but usually enters by way of the blossom stem. For this reason there may be an entrance of blight, as you say, in the middle of a large limb, and the common course of the blight is downward and along the limb, and as soon as it sufficiently girdles the limb all above that point is worthless; therefore, in cutting back it is advisable to disregard entirely the healthy growth above the blight and to cut below the invaded part.

We are not aware that it has been definitely demonstrated how far the blight will travel. It will travel probably as far as a bee will fly and that has been a matter of some controversy, some holding that a bee will fly as far as 2 or 3 miles; certainly in your case it seems probable that the infection came in the way you describe.

Whether the blight can be really held in check by careful attention has not yet been fully demonstrated, but this has been done in some cases at least, and the common fact that the blight often becomes less aggressive, for reasons which no one understands, is an encouragement to make all the effort one can to prolong the life of profitable trees.

We cannot give you a list of the comparative resistance of the pears which are profitable in California. We unfortunately know that the Bartlett, which is almost our main reliance, is very subject to disease. It will take more time to collect facts as to the behavior of other varieties in this State.

We cannot tell you anything about the claim which is made that an effective parasite for the codlin moth has been discovered. The codlin moth is known to be preyed upon by various insects, but none of them thus far hungry enough to check its injurious increase. What the claim for the new destroyer amounts to can only be demonstrated by experience.

Burr Clover Seed.

To the Editor:—I wish to inoculate a piece of sterile land with the cultures of nitrogen-bacteria issued by the Department of Agriculture at Washington. Can you tell me where I can secure seed of the common burr clover, which with us is the best

legume for soiling purposes? I had intended gathering a quantity of the burrs as they lay on some field before the rains came, but a sudden precipitation of about 6 inches of rain has sadly damaged my plans for the seed, while putting the ground in question in the best possible condition for sowing. If there is no place where I can purchase the seed, what other clover would you recommend that does well in moderately cold weather? I don't wish to sow peas or alfalfa —Farmer, Ventura county.

It is unfortunate that the heavy rain washed away your burr clover seed, because it is bulky and rather expensive. Probably you have thought of prospecting around to see if you could not find it deposited on some flatter land. You can usually buy burr clover seed from San Francisco seedsmen, and Los Angeles seedsmen might also supply it. We do not know any winter growing clover which is so good as this and cannot suggest any satisfactory substitute in the clover line. If clover is out of reach the field pea comes next as hardy winter growing legumes.

Lime or Humus.

To the Editor:—In your work on "California Fruits," page 159, the subject of lime as treatment for heavy clay or adobe land is set forth, but I find no directions for the use of lime in this connection. Please advise me whether to use air-slacked lime or to spread it as it comes in the barrel. I have a few acres in Santa Clara county in prunes in their ninth year, and, while I do not think they need fertilizing, the use of lime or some such treatment might be beneficial, as the land is of the heavy, black clay or adobe variety. The land has never been treated to any fertilizer of any kind, but has been thoroughly cultivated.—Owner, Oakland.

The use of lime has a softening effect upon heavy clay or adobe soils, rendering them more easy to cultivate and less liable to become hard during the dry season. For this purpose air-slacked lime is best, because it can be more evenly distributed, although it is, of course, possible to use fresh lime, which will slack quickly in contact with the air. It is quite a question, though, whether you will get benefit enough to meet the cost of the lime. You will get friability and at the same time add to the humus in the soil by arranging to grow winter crops of peas, burr clover, etc., for plowing under. The same effect is produced in a less degree by allowing as much growth of weeds during the winter as you can cover in at the plowing. This is a direct contribution to the plant food of the soil, as well as an improvement in its mechanical condition, whereas the application of lime acts mechanically and is not often required as a plant food in California soils, which are usually rich in lime. If your prunes are of good size and the trees so vigorous in appearance that they do not seem to need fertilization, we should still be inclined toward the winter introduction of organic matter, because, as already said, it makes the soil more easy to work, less liable to dry out, and will also furnish nutrition, which will soon be urgently needed by the trees, even if they have not yet reached such a need.

Japanese Walnuts in California.

To the Editor:—We have had many inquiries regarding the commercial value of Japanese walnuts (Juglans Cordiformis and Sieboldiana). If you could give any information regarding the market price in the United States of the above-mentioned nuts, this information will be highly appreciated. —Grower, Georgia.

There is no considerable product of Japanese walnuts in California, although there are old trees here and there throughout the State. So far as we know, none of the nuts have ever reached the market, except possibly in the local stores, and no price is established for them. They would naturally be cheap, as they are small and hard-shelled and not at all likely to be popular in comparison with the many varieties of Persian walnuts which are being commercially grown here.

Lima Bean Growing.

To the Editor:—I want to learn something of the cultivation of Lima beans. I am informed that it is a profitable crop in Ventura county and would like to know about that and any other counties where they raise them.—Enquirer, Chicago.

The fullest account of the amount of cultivation of Lima beans in California is that given in our book on "California Vegetables." It has certainly proved a very profitable crop on the whole in Ventura county on the coast side; also in Santa Barbara county, and recently the culture has been extended into the upper coast corner of Los Angeles county. It is clear, however, that this crop cannot be carried far from the ocean. It delights in the moist air and in the equable temperature which is secured by the summer breezes and fogs from the ocean. In the drier and hotter parts, even of Santa Barbara and Ventura counties, the plant cannot be successfully grown. Even a distance of 10 or 15 miles and the intervention of a range of hills may change the plant from profit to loss. Although Lima beans are grown in market gardens for fresh use, in almost all parts of the State the commercial crop of dried beans is strictly confined to the district indicated.

Rich Bottom Land as a Dairy Adjunct.

To the Editor:—I have a piece of low rich land, of a clayey nature, without sand. Will it do for onions? I am running a dairy, but am looking for some special use for this rich land. I can irrigate the same.—Young Rancher, San Benito county.

From the description which you give the land ought to be well suited for an onion crop, unless the soil is too heavy and inclined to bake badly during the dry weather, or to be too sticky to cultivate well after irrigation. The onion crop is one which requires great expenditure of labor and it is very desirable that the soil should be of a kind which makes a minimum amount of expenditure in this direction most effective. If you are going to extend your dairy, which seemed to be a desirable proposition, should you not use this rich bottom land for forage crops to maintain the milk flow during the dry season? The land would seem to be well adapted for fodder corn, for stock beets, or other dairy feeds—especially as you have water to push growth during the dry season.

Weary Roses.

To the Editor:—Enclosed please find some rose cuttings which I send you to see if you can tell me what the disease is affecting them; I have tried sulphur and Paris green solution without any effect. Can you tell me of any remedy?—Grower, Fresno county.

We do not find any indication of disease upon the cuttings. There is on the leaves a sort of a whitish exudation which has an appearance of a disease, but is rather a process of condensation of sap by evaporation from the tissue of the leaf during the hot, dry season. This could probably be prevented by giving the plant a more ample water supply, but roses on the whole do better if they are allowed to become somewhat dry and to rest during a part of the summer. If they are then cut back quite sharply and given plenty of water in August, good fall growth starts and free blooming of fine flowers during the lessened heat of the California autumn months. Your relief would come from a rather different and more generous system of cultivation than from the application of medicines of any sort.

The California Nutmeg Tree.

To the Editor:—I am sending you a specimen of the nuts and foliage of a rare tree which grows, as far as I know, in only a few places in the mountains. It is known locally as the nutmeg tree and by the Indians as "Suck-See." I would like to know if it is the nutmeg of commerce, and, if so, does the nut develop the peculiar flavor in this climate?—Reader, El Dorado county.

The specimens which you send are the fruit of the California nutmeg tree (Torreya californica). It is one of our most charming evergreen trees, and, as you say, exceedingly rare. It has, however, no relation whatever to the true nutmeg tree, the latter having a broad leaf, very much like that of the pear, and growing only in the tropics. There is, therefore, no connection between these two trees except in the name "nutmeg," which was given to our beautiful California evergreen because of the fancied resemblance of its fruit to the nutmeg of commerce.

Who Can Profitably Use the Bradshaw?

To the Editor:—I have just received returns from the fruit of some ninety 10-year-old Bradshaw plum trees. The fruit was of good size but failed to pay its own freight on Chicago market. Former experience here has been the same, unless when sold locally in small quantities. What encouragement can you give us to try evaporating or sun-drying or other method of preserving? The cannery here will not buy them. Should we cut the trees down?—James Shearer, Idaho.

The Bradshaw plum is not a very desirable possession, although the tree is a very vigorous grower, late bloomer and therefore productive in frosty places where some other varieties fail. As, in your experience, it does not pay in shipping and is not used by the canners, there is only the one chance left to you of making a product of dried pitted plums. These are sometimes quite profitable, but, as a rule, hardly considered an object for keeping the trees. Large acreages of plums have been grafted over or dug out in California, because of lack of profit in pitted plums. This product has done better recently from this very fact. It is reduced in amount. Presumably you could not undertake evaporation of pitted plums in successful competition with the sunshine product. We are inclined to think that unless you can graft over to advantage to prunes the land would be more valuable without the trees.

WEATHER AND CROPS.

Report of the U. S. Weather Service for Week Ending October 3, 1904.

Alexander McAdie, Forecast Official and Section Director.

Sacramento Valley.

Cool weather continued during the first part of the week, followed by warmer, with dry north wind. The latter was beneficial in absorbing the surplus moisture in the soil and drying out hay that had been exposed to the recent rain. Hay, grapes and dried fruits were quite seriously damaged in some sections by the severe storm of the preceding week. The soil is now in excellent condition and plowing and seeding are in progress in many places. Green feed is growing rapidly and will soon be plentiful. Grape picking has been resumed and large shipments are being made to markets and wineries. Citrus fruits are in good condition and a heavy crop is probable.

Coast and Bay Sections.

The weather was generally warm and partly cloudy during the week, with fogs along the coast. The soil is in good condition and plowing and seeding have commenced in many places. Green feed has made remarkable growth since the rain and will soon be plentiful in all sections. Grape picking is progressing rapidly and is nearly finished in some places; the crop was not so seriously damaged by the storm as estimated last week. Fruit drying is nearly completed. The damage to crops by the rain of the preceding week was quite severe in some sections and almost nominal in others.

San Joaquin Valley.

Cloudy and rainy weather prevailed the first part of the week, and the latter was clear and warm in the northern portion of the valley, and partly cloudy in the southern. Very little progress was made in raisin curing, and the partly cloudy weather following the rains in the raisin district caused considerable mould in stacked trays. The damage to fruit and hay was not so great as expected. Wineries are running at full capacity and the crop is turning out well. The prune harvest is about completed and the yield and quality were good. Large shipments of potatoes continue from the Stockton district. Olives promise a good crop in the Lodi district. Green feed is making rapid growth and stock are in excellent condition and healthy.

Southern California.

Warm, dry weather prevailed in the interior, with fogs in the coast districts. Conditions were very favorable for raisin making. Most of the raisin grapes are on the trays and will be ready for packing earlier than usual; the quality is excellent. Orange and lemon orchards in the vicinity of Upland are reported in excellent condition. Oranges are more advanced than usual at this season; there will be a fair crop in most places. Walnut harvest has commenced in the Anaheim district. Beans at Santa Maria were not badly damaged by recent rains and thrashing has been resumed. The water supply is holding out very well.

Los Angeles Summary.—Poorest deciduous fruit season in this vicinity drawing to a close. Salway peaches generally abundant. Raisins on all trays in the southern section and will soon be ready for market.

Eureka Summary.—Continued foggy and slightly warmer weather. Farmers are harvesting peas and potatoes; an average yield. Apple picking is progressing favorably; crop half gathered. Some fall plowing has been done.

Rainfall and Temperature.

The following data for the week ending 5 A. M. Wednesday, October 5, 1904, are from official sources and are furnished by the United States Weather Bureau for the Pacific Rural Press:

California Stations.	Total Rainfall for the Week	Total Seasonal Rainfall to Date	Total Seasonal Rainfall Last Year to Same Date	Average Seasonal Rainfall to Date	Maximum Temperature for the week	Minimum Temperature for the week
Eureka	.00	2.52	1.72	2.18	70	50
Red Bluff	.00	5.22	.24	.98	90	58
Sacramento	.00	3.66	.00	.57	88	58
San Francisco	.00	5.15	T	.63	86	56
Fresno	.02	1.78	.00	.41	88	56
Independence	T	.31	.42	.33	82	50
San Luis Obispo	T	3.46	.00	.74	86	52
Los Angeles	T	.44	.43	.29	94	56
San Diego	.00	T	.07	.24	84	60
Yuma	.00	.81	.62	.72	98	58

THE DAIRY.

The Milking Quality.

By Mrs. Minnie E. Sherman of Fresno, at the University Farmers' Institute at Imperial, San Diego County.

The average man in the dairy business has not been trained; he starts with a few cows, and, finding the ready money desirable, continues to increase the number of his herd. He soon discovers that he needs cows that are continuous milkers. Then the creamery man takes up his education in the difference in the amount of fat in the milk. Later, when the dairyman begins to proportion out the money received for cow feed and for milkers' wages, and falls short in his accounts, he finds that slip-shod ways will not do in the dairy, and he either does better in management or sells out discouraged.

Yet there is no surer road to a prosperous community than by dairying, as we see land selling for $200 to $500 an acre in Humboldt county, the value of the dairy making people willing to live in so inconvenient a place. To-day, in Fresno county, it is not the humble dairyman that is in the dumps, but the aristocratic raisin growers.

The Sire.—In the way of improvement the dairy is not expensive, for, strange as it may seem, sires are cheaper than cows. The son of a fine registered cow rarely sells for nearly as much as his dam or his sisters, yet there is a larger chance of his transmitting the acquired qualities to his offspring than of his sisters proving the equal of the dam. Milk making has long puzzled the student, until at last it has come to be considered as mental, and, just as we find in the human family, the sons acquiring the mental or brain powers from the mother. Men of brilliant minds rarely have sons of like ability, but have grandsons, sons of their daughters, as great. So we find the male, by his hardiness, gathering up the acquired characteristics, and, by the force of heredity transmitted to the female, the female of the race becoming the type or standard bearer of excellence. So in the bovine family the acquired milk and butter making of an extraordinary cow passes to her son, and by him is fixed in the line of blood, while in the daughter of the great cow we have her individual type to overcome before the excellence inherited from the mother can be developed. If you study the matter out, you will find that every great sire has a great dam behind him, while the butter and milk quality in the cows is not so traceable. Now the best of the sons of the imported cows are often sold for less than half the price of the heifers. Now, if I were starting a herd, I would buy old registered cows that had breeding, but had not distinguished themselves, and start with a sire of the highest butter-producing family I could purchase. The resulting heifers would be pushed by feeding as soon as they came in for all they were worth. When they matured I should expect to have all Advanced Registry cows—indeed, the per cent of failure would hardly be worth counting. While older bulls are a nuisance from having learned bad habits, yet I prefer them, for they are tested as to the quality of their calves. If the expense is not too great in transporting them, or they could be had near at home, I would prefer to buy them to younger animals. We do not consider that the length of the animal's life is of importance, yet it is better that a cow should live and be productive for eighteen years than that she should fail at 10 years old. But to return to the sire. I prefer the older bull, for it can be seen by his calves the type of cow he nicks kindly with, and the type he fails to produce well with, so the loss is reduced to a minimum of producing undesirable cows.

Inbreeding.—The improvement of cattle comes from environment also. By environment is meant care, food and climatic conditions. Under care comes correct milking, while we gain heredity in the grade herd through the sire. I like to keep the best of the sires to breed back to again. His heifers are bred to another sire, one-eighth of the same blood, and their daughters to another sire, one-eighth, if possible, of another desirable strain of the old sire's blood. The next generation is bred back to the original sire, and next to the second sire and the next to the third sire. By writing out the pedigree and never coming in more than the third generation, using for the purchased sires those not nearer than third cousins, the cows can be brought to a type of cattle that are desirable. With a hundred head this only requires three bulls. With a close observation of the individual animal's health, it is safe to breed in closer. Nature will quickly show you if you are coming in too close by giving you weak calves. The Jersey breeders on the island have shown great skill in this, for after 200 years of breeding together in a limited number of animals on the island, they still have health and thrift.

Notes From Experience.—The best cow in our old herd was Lady Kathleen, and we have retained her blood as possible in the breeding of the younger animals. She gave 4.4 milk by the year, making 629 pounds of butter in the years. She came of the Aaggie strains. We hunted the herd books for blood strains and found them fully represented in the bull Romeo Aaggie.

After some bargaining we bought forty-two heifers, most of them his daughters, shipped them to California and bred them to Lady Kathleen's sons. Some of these heifers had been bred to Johanna's 5th Paul DeKol when purchased. Again we had the Aaggie blood with the higher testing strains of the Johanna's—a very excellent cross. One of these Montana heifers bred to Lady Kathleen's son gave us the cow now in our herd that tested last month over three pounds of butter fat in a day, while her daughter bred to one of the younger sons of Johanna's 5th DeKol has a world record as a heifer. Of the stock raised from this cross, there are thirty-nine in the Advanced Registry. Seven in our herd that were fresh last spring in July, were giving over two pounds of butter fat in a day, while nineteen fresh last winter are giving over a pound of butter fat in a day. It is this continuousness of butter production that makes the herd valuable.

The fixedness of the amount of butter fat in a cow's milk makes it necessary to watch the breeding, for by a change of blood we can lower or raise it in one generation very markedly. The slight increase in butter fat the second year that a cow is milking often deceives people into believing that this is not true; but this rise is due to the superior care and feeding the cow receives in enabling her to reach her limit, for the concentrated food gives her all she can assimilate of milk-producing food. In the Holstein the chance of form is often marked. The heifers sometimes are so coarse and beefy that one is a little ashamed of them; but when they have had their second calves they come to the milk form rapidly and make good cows; several that were of this type are now Advanced Registry with creditable official records.

Milking.—The milking of cows is of as much importance as the feeding. Where one has a large herd a prize of a dollar a week to the milker whose cows do the best, when the milk is on the increase, or whose cows fall off the least when the milk is decreasing, gives good results. One of our neighbors thought he would try this plan. He also runs a hotel in town, which the home farm supplies with milk At length the cook remonstrated with him, as the milk was growing thinner every day. There being no foreman over the milkers, they found the pump very handy to increase the milk flow.

There is a serious loss in allowing cows to go dry too soon and to remain dry for several months. Six weeks is long enough for a cow to be out of milking, and heifers must be milked up to this time if they only give a quart a day or else each time they freshen they will go dry at the same period. We never believed in the forceful drying off of cows by giving the alum internally, or by starving them or by rubbing the udder with camphor. Any of the ways of stopping a secretion should be looked upon with suspicion. Nature knows best and it is safe to follow her indications. We feed our cows right along; if they go dry before calving we allow them to do so; but, without they drop below a gallon of milk at a milking, they are milked regularly without any attempt to dry them off. The idea that milking them stunts the calf does not hold good if the cow is fed. Of course, if she is starved, she will drop a feeble calf. This is not theory, but learned by experience in the dairy. Some good cows that we sold fell into the hands of the theorist and he forcibly dried off some of them, so that when officially tested they have never recovered their milk flow. One cow that at full flow of milk gave seventy-five pounds has now only a record of fifty pounds. She did make three pounds of butter a day, while her present record is only a little over two pounds. Forcible drying off will ruin many Durham, Ayrshire and Holstein cows, or any other cows that give large volumes of milk.

The older dairymen were wise in insisting on stripping the cows. We have come to it as a practical necessity, for it is easier to hire one good head milker who by stripping the cows can keep the other men straight; for when the stripper comes along any slackness is at once discovered. The time spent in stripping is fully paid for. As the herd is usually left by the ordinary milkers, each cow will strip from three-quarters to a pound of milk. This milk averages 7.5% of fat, so that on a string of thirty cows there is 15% to 30% milk. This equals a daily loss of 2 to 2¼ pounds of butter fat, worth, say, 20 cents a pound, or 40 or 50 cents.

The flegelund method of increasing the milk flow has been tried by the Cornell and Wisconsin stations, and bulletins issued telling the result and making comparisons with the ordinary form of stripping. Without going into details that would be very hard to describe, it may be briefly said that this form of milking is a series of manipulation or massage of the udder that can be best studied from the illustrations in the bulletius. The average increase of the milk was one pound a day per cow. The average of the fat of the entire milk was 4.29, and this last pound of milk obtained had 10.32% of butter fat. The time required to obtain this last milk was from two to three minutes, or at the rate of twenty cows an hour, so that twenty cows will yield an increase of butter fat worth 40 cents. When it came to careful stripping, done with the whole hand, not with the thumb and finger, the results were about the same. Either way is worth practicing, for it not only increases the immediate milk flow, but it also makes the period longer before the necessary decrease in the milk flow.

The best cows naturally receive the best care and most careful milking, and while we can not look for many more pounds of butter fat from the individual cows, it is reasonable to hope for more cows with the capacity of thirty pounds of butter a week. The perfecting of the milking machine will be the dairymen's millenium. Yet there will always be physical difficulties to overcome.

Temperament.—In my own dairy two heifers may both be equally well bred, both have the same care. One makes a cow giving 350 pounds of butter in a year, while the other makes 500. Now where is the difference? The two principal ones seem to be, first, in the teats; they are either too large or too small, or too thick at the top, so there is difficulty in milking clean, and the cow is never developed to her full capacity. The other cause for failure is nervousness. The fretting, easily annoyed cow is never worth as much as the placid cow. Watch them going into the stable—one cow rushes ahead, blunders into the wrong stall, while the heavy-producing cow walks in quietly, finds Madame Blunder in her stall. She pauses to see if there is a man around to put out the intruder. If she sees no one, she walks into the next vacant stall and goes to eating, while the fussy cow frets because she is being milked out of turn. She is decreasing her milk flow all the while by her own perversity, while old placid is enjoying her feed and thinking how much time she has before the milker says "Hi! Cowy!" which means to stand still to be milked.

How much there is in this nervousness can be judged by the decrease in milk flow if a herd is startled in any way. We had a heavy wind come up as the cows were going into the barn one evening. A storage shed outside of the cow yard was unroofed and collapsed with a terrific crash. The morning milking had been forty-five 10-gallon cans. That night the milk was thirty-four cans, or eleven 10-gallon cans shortage. That milk was not secreted and was lost, for the next morning the milk was still twelve gallons short; so the loss was a total of 122 gallons of milk—all from the nervous shock. Now this also shows the mischief an unruly cow may do in the barn with quiet ones.

We have found it profitable to have the heifers broken to milk out of hearing of the cows, until they are absolutely docile. The man that breaks heifers must be gentle and patient and should only have a string of ten to twelve to handle.

Milk is not all the value we receive from the dairy herd. In Germany herds of cattle are fattened without thought of other profits than the manure for the vineyards. This manure should pay for the foods purchased. We know the heavy crop of grapes we have is due to the heavy fertilizing that the vineyards have received in the past years. When our neighbor on a vineyard less than ours told us he had expended $1200 for bone and blood meal, we thought of how many cows this would have fed. So the fertilizer money will pay the feed, and, with a little experience in feeding, the skim milk should make the returns from the pigs enough to meet the cost of the milker. This leaves the butter free of expenses, and, selling only the fat, there is no loss of fertility to the soil.

Study.—The wonderful success of Mr. Dietrich of Flourtown, Pa., is told in this years' Department of Agriculture year book and should be carefully studied. He has thirty head of stock on thirteen acres of land—seventeen milking cows, eight heifers of all ages from springers to calves, three bulls and two horses. All the hay and fodder used is raised on the farm and 3300 pounds of hay were sold. Prof. Stillman particularly speaks of this herd as being well fed and in fine order. In 1881 this farm was so run down that it could not furnish roughage enough to feed two cows and a horse. Dr. Deitrich has neither purchased manure nor commercial fertilizers. Two silos of fifty tons each are filled with corn grown on the farm. The stables have cement floors and all the manure is saved and hauled out daily and spread on the land. Dr. Dietrich is to tell of the soiling crops he grows in the next Government year book. About $400 is spent each year for commercial feed for the stock. The corn grown for silage on this highly fertilized land produced thirty tons to the acre, so Dr. A. T. Neale of the Delaware Station estimates. Now why has this little Flourtown farm and its owner been successful? Because Dr. Dietrich read everything that he could find that was in the line of his work, and he applied to the farm everything that appealed to his common sense as reasonable. The soil of this farm by recent analysis contained 20,000,000 of bacteria to one-thirtieth of a cubic inch of soil. It has been suggested that some time in the future we may sell and buy our farm lands by the bacterial count. Dairymen have been so unmercifully used by the schemers, on these bacterial counts, that they certainly would not welcome it in any guise. It is a pleasure, however, to see in Dr. Dietrich's success the triumph of book farming, to see recognized the work of the scientific corps of the universities and experiment stations, that it is practical and not all theory when applied to the soil. The return to the soil is a hopeful sign of the times, for it indicates that at last educated people are finding pleasure in doing as well as in thinking, "for he that can work is born king of something."

The Bogus Butter Trade.

We have received from Mr. Charles Y. Knight (secretary), of Chicago, the annual report of National Dairy Union regarding effects of the National 10-cent tax oleomargarine law:

The second year of the 10-cent tax oleomargarine law was completed June 30, 1904, and the National Dairy Union has just received from the Treasury Department at Washington a report of the output of oleomargarine in this country for this period as shown by the tax collections through the Internal Revenue Department of the United States.

The output for the last twelve months of oleomargarine is shown to have been 48,071,480 pounds, of which 40,432,388 pounds paid ¼c tax as free from artificial coloration, and 1,639,102 pounds paid 10c tax as artificially colored.

During the preceding fiscal year ended June 30, 1903, the production of oleomargarine throughout the United States aggregated 71,804,102 pounds, of which 69,382,548 pounds paid the ¼c tax as free from artificial coloration and 2,421,454 pounds paid the 10c tax as being artificially colored. During the fiscal year ended June 30, 1902, the production of oleomargarine in the country amounted to 126,316,472 pounds. The new law the first year cut this down 54,512,370 pounds, or 44½%, giving a production, as shown above, of 71,804,102 pounds of colored and uncolored.

The second year under the new law, in which 48,071,480 pounds of colored and uncolored oleomargarine were produced, shows a further shrinkage of 23,732,622 pounds, or a reduction of 33% from the first year, bringing the production for the past year down to almost one-third of the amount of the output during the year manufacturers were permitted under a tax of 2 cents per pound to artificially color all goods.

The Oleomargarine Situation. — A year ago there was a restless feeling of uncerta nty among the dairy interests because of the tremendous onslaughts which were being made against the new law in the courts. Its validity was questioned at every point, and four cases were carried up to the Supreme Court of the United States last fall, three from Chicago and one from Cincinnati. Three of these cases raised in various ways the point of the constitutionality of the tax of 10 cents per pound on colored oleomargarine, and the fourth involved the right of Congress to delegate to the Commissioner of Internal Revenue the power to determine without appeal what constitutes "artificial coloration" under the new law. These cases were argued at Washington December 1, 1903. Three of these cases were decided last May. They upheld the government and the law at every point. The opinion was prepared by Justice White, in which he again emphasized the position of the court regarding artificially colored oleomargarine. The court reaffirms its position in the Plumley case (1894), that oleomargarine colored in imitation of butter is a fraud, and as such has no rights which legislative bodies are bound to respect.

This decision forever settles the question of the right of Congress to tax any kind of oleomargarine any amount it sees fit. The court plainly reaffirmed its many previous rulings that the amount of taxes levied upon any article was the business of Congress, with which the courts had no right to interfere. The law cannot in future be assailed from this standpoint.

One Loophole Open.—Three of the four cases, involving the constitutionality of the law, were disposed of as above stated, forever settling the right of Congress to lay the 10c tax. But a most vital question is involved in the one case which has not been decided, and which will probably be settled at the October term of court, viz., as to whether Congress can constitutionally delegate to the Commissioner of Internal Revenue the exclusive right to say what oleomargarine is officially colored.

This case indirectly involves the use of palm oil in oleomargarine under the ¼c tax. Under the provisions of the law the Commissioner has taxed all oleomargarine containing palm oil 10c per pound, and in this way the Government has collected close to $250,000 in penalties from manufacturers who have endeavored to evade the intent of the act by employing this oil in the manufacture of oleomargarine under the guise of a legitimate ingredient, when as a matter of fact it is nothing more nor less than a subterfuge to get coloring matter in their goods, palm oil being almost as strong a vegetable coloring agent as annatto. As the law now stands the manufacturers have no appeal from the decision of the Commissioner of Internal Revenue to the courts. The desire of the oleomargarine interests is to take from the Commissioner this right and lodge it in the court, where every dispute must be submitted to a jury. This would bring about a chaotic state of things, because juries in cities where such cases arise are usually prejudiced against the interests of farmers and very likely to give the oleomargarine maker the benefit of every doubt. Under such a condition the effectiveness of the law would be seriously impaired.

In Conclusion.—So long as beef packers have oleo oil, neutral lard and cottonseed oil within easy reach, there will be a temptation to make oleomargarine, and so long as oleomargarine is made, every effort will be made to cause it to look like butter. There have been too many millions of dollars made in this business to permit it to be dropped. So long as the dairymen are active personally and through their organization, the law will remain upon the statute books and be enforced. The minute the slightest lack of interest or watchfulness is discovered upon our part, our opponents, who are always organized, will seize the opportunity to undo our work of years.

THE STOCK YARD.

Feeding Value of Beet Pulp, Alfalfa and Grain.

Mr. R. W. Clark, animal husbandman of the Utah Experiment Station, gives in the annual report of the Station, just received, the following conclusions from some experiments in alfalfa, grain and beet pulp feeding with sheep and steers. Twelve steers were divided into six lots of two each, and ninety-six sheep into six lots of sixteen each. This experiment was run for 107 days, and the following is a summary of the results:

1. Steers and sheep that received only alfalfa and beet pulp made the smallest gains per day, and of all lots they required the most dry matter per pound of growth.
2. Steers that received only alfalfa and beet pulp gave the largest profit, $5.78 per head. This ration cost $2.80 for 100 pounds of increase.
3. Steers that received the maximum of grain, eight pounds per animal per day, and alfalfa and pulp ad libitum, made the largest gains per day, were third in profit, $2.80 per head, and produced the best quality of meat.
4. One hundred pounds of increase with steers on a full ration of alfalfa and grain cost $4.93; 100 pounds of increase with steers on a full ration of alfalfa, grain and pulp cost $3.98.
5. When alfalfa and pulp were fed to steers ad libitum, with a half ration of grain, 100 pounds increase cost $3.51, and pulp had a value of $1.66 per ton.
6. When a full ration of grain was fed to steers with pulp ad libitum and a half ration of alfalfa, 100 pounds increase cost $3.84, and pulp had a value of $2.54 per ton.
7. Sheep that received a half ration of grain, 4 pound per animal per day, and alfalfa and beet pulp ad libitum, gave the largest profits. They made as large gains per day as animals receiving twice as much grain and alfalfa and pulp ad libitum. They made larger gains and profit than sheep getting only alfalfa and pulp ad libitum. From this we may conclude that a small amount of grain should be fed to lambs getting alfalfa and beet pulp ad libitum.
8. Refuse molasses of the sugar beet factory fed to steers had a value of $2.35 per ton. As a food for sheep it did not give the returns expected.
9. Beet pulp when fed to steers with grain and alfalfa had a value of $1.66 to $2.54 per ton, and when similarly fed to sheep its value ranged from $1.08 to $3.66 per ton.
10. Steers that received grain did better the latter part of the feeding period than the fore part, while with the steers receiving only alfalfa and pulp there was no difference in this respect.

Fat Stock Judging.

The fairs are not yet all over and there will be at Hanford during the week, opening October 10th, a stock show which will be worth traveling far to see. This being the case, discussion of the subject of judging is still timely. Mr. R. Bruce, an Irish judge, gives the Breeders' Gazette some interesting conclusions from his experience:

The Style of the Breed.—At fat stock shows where the prize schedule is drawn up so as to provide classes for each breed I have witnessed on the occasion of several contests that the judges failed to bear in mind that it was the best and most typical specimen of the breed then under consideration that had right to win. Suppose, for instance, that a class of Shorthorn steers or heifers was being judged; breed characteristics have seemed to be ignored under some judges who give the place of honor to an animal, possibly the best fat stock show specimen, but one that was altogether devoid of the style and character of a pure-bred Shorthorn. When a class is provided for a particular breed, although perhaps the qualification for entry may not call for a herd book reference, surely it is incumbent on judges to keep breed characteristics clearly before them. Should this be overlooked the educational advantages of such competitions are certainly lessened.

In championship competitions, where the different breeds and crosses compete on equal terms, by all means give the fat stock view of the case full play and let the best win. It must be satisfactory from every point of view when a champion is a good representative of the breed in which he won his class honors. Interested students of breeds and the general public will then have before them a specimen of what the breed, to which he belongs, can produce.

Size.—A famous Shorthorn breeder in Yorkshire, who saw the Collings' herds sold, remarked to me when we were acting together, judging a class of Shorthorns: "They are always big enough if they are good enough." This I could not quite endorse, although I am quite aware that a really good animal never looks his full size. I have no great love for big animals in a breeding herd, as I have invariably found the smaller sized cows the best breeders, yet in a fat stock show size must be considered. An animal to win in a fat stock show should be an average weight of its breed for its age. I have seen breed champions at a fat show as neat and pretty as any one could wish to see, but hundreds of pounds lighter than the average weight of the others in the class about the same age and the same amount under the average of the class in previous years.

Ladies Last.—Every breeder knows that it is much more difficult to produce a really good male, whether bull or steer, than a female, and rightly or wrongly I am of opinion that in a close tie a steer with his extra substance and weight should get the preference, although, perhaps, not so perfect in all his points as the female pitted against him.

All Around.—An animal under examination at a breeding or fat stock show should be carefully examined from all points of view. Under ordinary circumstances one side view is obtained as the class is being paraded around the ring, when a general opinion is formed of a number of the best. The class may now be drawn up in a line and carefully handled, when a number of the superior ones should be drawn out by themselves and again paraded with the opposite side view given to the judges. After being again set up in a line each animal should be led straight away from and brought straight back to the judges so that they may have a full opportunity of seeing both ends from behind and before. On looking at an animal as he walks from one, weakness of the back is at once apparent, which may have, up to that test, been hidden by a clever attendant. Unless the back is strong a portion of it is lost to view as the animal gets 10 or 15 yards away from the judges. Coming straight back one of the most important points in an animal can be fully observed. It need hardly be said that reference is here made to width of chest. This was a point that the late Amos Cruickshank often spoke of to me, and I can never forget the pleasure it gave him when I told him what a Lincolnshire breeder said about the first Sittyton bull he saw in his neighborhood. He said: "I met Clayhurst as he was being led from the station to my friend's farm and his chest filled the whole lane." I need hardly say that without sufficient width of chest and lung space there must be a want of thrift and constitution.

HORTICULTURE.

Prunes in France and California.

Mr. A. C. Freeman of San Jose, prominent in the prune interest, has recently made a European trip, of which notes on the prune there and here are given to the Mercury and are of interest. He says that to one familiar with the Santa Clara valley a trip through the prune districts of France is extremely interesting, and one that he has thoroughly enjoyed. The orchards extend for 100 miles around Bordeaux, which city is the center of the prune industry of France. Scarcely an orchard is in our regular California style, planted in straight rows, symmetrically laid out and cultivated as we cultivate. The French idea seems to be to use the land for grain, maize, vines or whatever the owner wishes to produce, and then grow a few prunes without taking up any room or incurring any extra expense. In the few orchards that are laid out in rows the trees are planted from 30 to 60 feet one way and from 100 to 200 feet the other, so that they look more like a scattering grove of trees than our California orchards. Whatever cultivation the crop grown on the land gets, the prune trees derive a corresponding benefit—otherwise they are left without any cultivation whatever. One plowing per year is about the limit, and very little else in the way of harrowing or cultivating is done.

One favorite method of growing prunes near Bordeaux, in the vine district, is to plant the prune trees among the vines, say 50 feet one way and 100 or more the other, scarcely missing a vine. Farther out in Bordeaux, in the grain districts, one full row of vines will be planted along with the prunes, and in this way a few furrows are turned, so that the row of vines and trees together have perhaps 10 feet of plowed ground, but no other cultivation such as we give.

In spite of this apparent neglect—or such as we consider neglect—the prune trees look very healthy, and this year are bearing an unusually heavy crop.

For the past three or four years, or since 1900, the crop has been extremely light, occasioned by a pest of caterpillars and by heavy frosts at the time the fruit was setting on the trees.

It would naturally seem to a Californian, accustomed to the scientific methods followed in the Golden State, that a business carried on in so careless and haphazard a manner would be barren of

results, but this is a country where everything is saved and where everyone works. Gathering the prune crop is comparatively light employment, and the very old and very young do most of it.

Their method of curing is somewhat different from ours. They simply wash off the soil in clear water, place the fruit on small, diamond-shaped trays in the sun for a few days when it is hot and the weather good—otherwise this portion of the curing is omitted. They are then put in the ovens, made after the style of our bakers' ovens, and thoroughly dried or almost cooked. When they have been in there a sufficient length of time, or when properly treated, the fruit is taken to market and disposed of by the peasants. Each town has a market day of its own, the different towns appointing their own days, so that there is no conflict between them.

All the fruits are placed on a platform and carefully inspected by the prune packers, who are either there in person or send their representatives, who buy, receive and pay for the stock right on the spot.

The net price to the grower this year ranges from 2 to 3¼ cents per pound in our money, according to size and quality—at least, these are the offerings being made in the season, but, as the crop is a large one and sizes are small, a decline is expected when the bulk of the crop is ready to move.

There are a great many young trees from one to three years old, and as fast as the old ones break down or become unsound they are replaced by new ones.

The crop of 1900 was something over 77,000,000 pounds, and many estimate this year's crop as heavier. In 1901 it was less than 20,000,000 pounds, in 1902 about 8,000,000 pounds, and in 1903 only about 2,500,000 pounds.

The advantage France enjoys because of its nearness to the big markets of Europe, of course, enables the grower to get a better price, proportionately, than we do for our fruit, and the further fact that all Europeans are great consumers of prunes, not having the vast quantities of other cheap fruits that the people of the United States are able to procure.

The valley of the River Lot, with its surrounding hills, is the principal prune district, and greatly resembles in soil, climate and appearance our own famous Santa Clara valley, lacking, however, the continued sunshine and equable climate which has placed our product in the front rank in the markets of the world. I find that the flavor which is imparted to our prunes by the sun curing is growing in favor.

Sod or Cultivation.

Very important experiments in orchard culture are being conducted by William Auchter of South Greece, N. Y., under the direction of the State experimental station at Geneva. The Fruit Trade Journal says experiments are for the purpose of ascertaining the relative value of cultivation and sod culture for orchards. The advisability of cultivation and the superiority claimed for it over the sod system has long been one of the most interesting questions with which orchardists have had to deal. Eminent authorities have differed greatly on this matter; with a view to determining, if possible, the better system, the Geneva station decided to lease an orchard for a period of ten years.

They desired an orchard which should be, as nearly as possible, ideal. After looking over a good many orchards, that of Mr. Auchter was selected as being in every way suitable. It is probably one of the finest orchards in this section. It comprises ten acres and every tree in the orchard is a Baldwin tree. The trees are set 40 feet apart. The Geneva people made a contract with Mr. Auchter by which he should conduct certain experiments for a period of ten years. Half the orchard was to be kept in sod, the other half in a state of cultivation. The sod part had been seeded down for two years. The other half has been plowed in the spring, cultivated and dragged, and kept in a good state of cultivation. On July 20 it was replowed, cultivated thoroughly and sowed to clover. The clover is now 6 inches high and will be allowed to grow until next spring. Before it draws the moisture from the ground it will, before the dry season, be plowed under. It will then be cultivated again the same as this year.

The seeded part is mowed twice and the grass left on the ground as a mulch. The entire orchard is, in other respects, treated exactly alike, the spraying and fertilizers being the same.

THE VINEYARD.

The Efficacy of Cultivation.

By Mr. G. M. Hawley, at the University Farmers' Institute at El Cajon.

The primary object of cultivation is the destruction of weeds, but at the same time a secondary result is obtained of equal importance, the conservation of moisture resulting from the dust mulch and aeration of the soil, and making the plant food it may contain available to the growing crop.

In the year 1897 Dr. Shepard was called East and left his ranch in the care of another party. He had an eleven-acre vineyard and the man had little else to do but to care for this. He cultivated, cross-cultivated and recultivated from February until about June 1st. From the vineyard he harvested seventeen tons of raisins, or over one and one-half tons per acre, the largest crop it had ever produced—and that in a year of only 7 inches of rainfall and without irrigation. The vines, however, were thoroughly suckered and only bearing canes allowed to remain.

With these facts before me, I have urged our growers to give thorough and long-continued cultivation in this year of great drouth. Early in the spring Mr. Stelle told me he could buy Mr. Forney's interest in the vineyard of 180 acres managed by Forney and Burgess, and asked my judgment as to the feasibility in the face of a dry year. I told him there was only one way by which he could expect to come out whole on it, and that was by deep and long-continued cultivation and thorough suckering, and gave him my reasons for my faith.

He bought the interest and carried out the advice, thoroughly cultivating until July 22nd. Mr. Forney says that in this, the dryest year we have ever experienced, the vineyard will have one of its best crops, and that without irrigation. Dr. Shepard, Mr. McDonald and several other vineyardists have pursued the same methods with excellent results, showing a striking contrast with those that have not received the intensive cultivation.

One of our grain farmers, through the misunderstanding of his hired man, had a portion of his summer-fallow land replowed. The result was more than double the crop than on the remaining summer-fallow. From his experience he now expects to replow most of his summer-fallow this fall. This experiment is but a modification of the Campbell system, from which such remarkable results have been obtained.

One of the objects of cultivation is to produce a dry earth mulch or to break the connection between the compacted lower and produce a looser and more pulverized upper soil, and cut off capillary attraction—in other words, to cut off the lamp wick, or make the upper 6 inches of the lamp wick of another mesh, through which the water cannot pass.

Mr. Culbertson conducted some experiments in Nebraska which will bear repetition. He placed a self-registering thermometer a foot or more under ground in a heavily mulched vineyard, another one at the same depth in finely cultivated soil, and a third in a hard roadbed. I cannot give the exact figures, but the mulched land had a temperature much lower than the outside air. The cultivated ground was a little lower, while the roadbed temperature was higher. Now, as air is capable of holding double the moisture at each twenty-four degrees raise in temperature, likewise the hot air, penetrating the mulched surface, if cooled twenty-five degrees, may deposit one-half its moisture. This condensation of moisture tends to compact the soil after each cultivation, thus necessitating continued cultivation in order to thoroughly aerate and thereby subirrigate the soil.

Cultivation without irrigation is better than irrigation without cultivation, but intelligent irrigation with cultivation is better than either. During the winter months there is no tool that will do as effective work as the plow. Vineyards and orchards should be plowed and cross-plowed to good depth to break up the compacted surface formed just below where the cultivator teeth went. If you pulverize this plowed surface very finely and there come heavy, beating rains, it will run the soil particles together like mortar, and will leave the ground harder even than before it was plowed.

One of the best cultivated pieces of land I have ever seen was a peach orchard. The land was finely pulverized with cultivator and then plowed, and the only tool used after that was the plow. The soil was kept loose and light, and the surface had the appearance of slacked lime, and it was not made a puddle of by beating rains. This ground in midsummer was loose and light, and contained moisture, while a vineyard adjoining was cultivated, thoroughly clod-crushed and finely pulverized, but yet was as dry as a bone at the same time.

Next to the plow the old diamond-tooth cultivator is one of the best for winter work, leaving your finer cultivations until after the winter rains. A clod-crushed surface followed by rains makes one of the hardest baked surfaces. After the rainy season I believe a weed cutter is one of the best cultivators. It should be set at such an angle that it will lift the soil and leave it light and airy, like sifted flour. It will do the most effective work for the horse power expended of any tool I know.

When a boy on an Ohio farm with my father we thoroughly cultivated a four-acre piece of land, then plowed it deep, following with a subsoil plow. We planted it to potatoes and the crop amounted to 1200 bushels, for which we got $800. That ought to have been object lesson enough to have so thoroughly impressed it upon my mind that I would have been following it from that day to this, but I was not a big enough man. It took a Campbell of Kansas or a Dietrich of Pennsylvania to do that.

Intensive farming means intensive cultivation. It is possible to grow double the crop on the same land with a quarter more work, and at the same time produce a fancy article that will produce a fancy price. Tom, Dick and Harry can grow ordinary crops by ordinary methods, but it is only Excelsior who raises the best, for which there is always a demand.

A Cattle Disease Now Prevalent in California.

By Dr. Archibald E. Ward, Vet. of the Agri. Exp. Sta. of the University of California.

Since the recent heavy rains, a disease of the mouths and feet of cattle has been frequently reported from northern California. The matter has been investigated by the writer through visits to Placer and Butte counties, where the disease and the conditions under which it occurs were observed. It is not epizootic aptha, as has been reported by the press in some instances. The appearance of the diseased area and microscopic examination of the same leads to the conclusion that the disease is mycotic stomatitis.

The affected animals show a high fever for a few days, are stiff and sore about the hoof, froth at the lips and dribble saliva from the mouth. An examination of the mouth will show the presence of ulcerous sores on the upper jaw at the point where the front teeth make contact. In bad cases the tongue, cheeks and roof of the mouth become affected. The appetite remains good, but the animal is compelled to fast because of the great pain caused by eating and consequently loses weight rapidly. The fever and starvation cause a shrinkage of the milk flow. Recovery usually takes place in less than two weeks.

The recent climatic changes, viz., a heavy rain following the dry period, is believed to be responsible for the presence of fungi upon the feed in pasture lands. These fungi gain entrance to the mouth and bring about the disease. Where practicable, removal of animals from pastures where trouble has occurred and feeding hay will tend towards prevention.

Affected animals should be provided with a convenient supply of drinking water, as they are not inclined to walk far. Sores about the hoofs should be washed with a weak carbolic acid solution. Scabs upon the teats may be treated with carbolated vaseline. A small handful of borax should be placed in a bucketful of water for the animal to drink twice each day. If the patient is not too wild, borax, alum or potassium chlorate may be placed directly upon the affected area. When the mouth is badly diseased and smells fetid, it should be rinsed out with a disinfectant. Weak carbolic acid (2%) solution is useful and may be introduced with a hard rubber syringe. Dr. Mohler of the United States Department of Agriculture suggests treatment of range cattle by mixing four ounces of crude carbolic acid with twelve quarts of salt, to be placed convenient for the cattle. Affected animals should be fed upon mashes, gruels, pulped fruit, or chopped green alfalfa—anything that can be taken into the mouth and swallowed with the least pain and irritation.

Berkeley, Oct. 5, 1904.

Ration for California Steers.

A stock grower at Dos Palos, Cal., submits this inquiry to the Breeders' Gazette and the answer is by one of the best authorities in the country:

Would you recommend a ration for beef steers from the following feed—alfalfa hay, with some foxtail and other foreign grasses, cut or chopped, $5; crushed barley, $22.50; oilcake meal, $34; cracked corn, $34; wheat, $25—all per ton? Beef sells at about 4 cents gross weight without much premium for prime beef. Feeders cost about 3¼ cents.

Under the conditions given, feeding steers through a long-continued period is bound to be a losing business. A margin of three-fourths of a cent per pound between the price of feeders and finished beef is not sufficient to justify the use of much grain at the prices named. Under these conditions beef must be made mainly upon grass and hay. Alfalfa is a cheap product at $5 per ton and should be fed liberally. I would advise a full feed of alfalfa and only a limited grain ration of from 5 to 10 pounds per head daily. This may consist of equal parts of corn, barley and wheat, with about a pound of oilcake meal per head daily during the last month. It is not probable that grain can be fed profitably under these conditions to exceed sixty or ninety days. Cattle must be finished mainly on alfalfa and in short grain feeding periods, the shorter the better.—C. F. Curtiss, Iowa Experiment Station.

Sheep Shearing Contest at World's Fair.

A novel and exciting sheep and goat shearing contest will be held at the World's Fair, October 12th, under the auspices of the International Sheep Shearing Festival Association. Cups to the value of $1125 will be offered for the several contests. Dick Marquis, champion sheep shearer of the world, will give an exhibition of sheep shearing for speed and quality. Mr. Marquis holds the world's record by shearing a single sheep in one minute and eight seconds, 360 sheep in one day, 1414 sheep in six days. The shearing festival will be held in the Live Stock Pavilion, World's Fair grounds, and "will be one of the most unique and attractive features of the live stock show," says Colonel Charles F. Mills, chief of the live stock department.

Agricultural Review.

Butte.

A Gridley dispatch says a celebration and barbecue was given Oct. 1st in honor of the opening of the Butte County Canal, an irrigation system which contemplates the watering of 215,000 acres of land in this end of Sutter county. Two thousand people attended. A dedicatory address, written by General W. S. Green of Colusa, was read by W. A. Beard, secretary of the Sacramento Valley Development Association. Following the dinner was a programme which included an address by Charles Wesley Reed of San Francisco, W. A. Beard, Senator Marshall Diggs of Yuba county, and Willard M. Sheldon, secretary of the Butte County Canal Company, of San Francisco.

Fresno.

LIGHT CORN CROP.—Sanger Herald: Corn will not be king in Fresno county this fall, judging by the reports from the farmers hereabout to the effect that the acreage planted is much less than last year. W. F. Hanke is of the opinion that the coming crop in this section will not exceed 500 tons, as against 2000 tons in previous years. Corn is worth about $26 at present, but a drop of $2 or $3 generally occurs about this time, when the new crop is ready for delivery. Most of the Chinese vegetable gardeners went into potato growing more extensively this year, which has not proved as profitable as raising corn, owing to a small crop caused by a long spell of hot weather.

CURES PEAR BLIGHT.—Fresno Republican: State Horticultural Commissioner Chisholm of Sacramento declares that the pear blight can be cured if trees are properly treated. After investigating several vineyards alleged to be afflicted with phylloxera, Mr. Chisholm announced it as his opinion that the disease was not what it is believed to be. Mr. Chisholm has experimented many years with pear blight and positively states that pear blight can be cured. His method is by cutting back the trees. He treats coal oil over the cuts and places lime around the base of the tree. He lets nature do the rest. He claims to have been very successful in his work around Sacramento.

Kings.

HOGS WILL EAT IT.—Hanford Journal: Robert Dougherty, one of the largest investors in wheat on the lake bed, said this morning that he had suffered no material loss on account of the recent rain, for, while there will be a portion of the grain that he cannot cut, he will turn his hogs into it, and will get his money out of it in that way. He has 1300 head of fat hogs and 300 head of feeders. He added that no harm was done to the wheat in sacks, but that it would be necessary to turn it over and resack it. He has about 7000 sacks of wheat.

Los Angeles.

WILL CAN 700 TONS TOMATOES.—Pomona Progress: These are busy days at the cannery in the tomato canning line, about 125 people being employed in the work of packing thousands of cans of tomatoes daily. The cannery has contracted for over 700 tons of tomatoes at $7 per ton and its season's output will reach 700,000 cans, for which there is a ready market. Mr. Waters states that the run on apricots and peaches was disappointing, because, on account of the short crop, he was unable to secure for canning as many as he could have sold. He had hoped to pack a million cans of peaches, but the output will only reach 800,000 cans.

Mendocino.

ANGORA GOATS.—Ukiah Republican-Press: Philo Ogden, the well-known Angora goat breeder of Upper Lake, was in Ukiah yesterday, bringing eleven goats from his herds to be shipped to a purchaser in the southern part of the State. Mr. Ogden finds the breeding of the animals even more profitable than raising mohair.

Monterey.

PECULIAR CATTLE DISEASE.—Pacific Grove Review: A new and peculiar disease has attacked the cattle all along the coast south of Pacific Grove, and as a result a number have already died while many are in a precarious condition. The affliction seems to be spreading and attacks all kinds of stock, both old and young. First, they are completely covered with myriads of little black lice, which seem to feed upon and worry the animal until it becomes poor and weak. The stomach is also affected, the food does not digest and becomes caked in the stomach, causing much pain.

Orange.

HARD LINES FOR BEEMEN.—News: The past season has been one of the most disastrous in many years to the beemen of southern California. There has been little surplus honey from any of the apiaries and the loss of stands has been very heavy. One of our beemen informed us last week that out of 175 stands with which he started the season he has but 65 stands, and they are weak. He has brought them down into the valley in the hope of saving the majority of these to form a nucleus for next season.

Sacramento.

HOPS TO SUPPLANT FRUIT.—Union: A. Menke, the well-known hop grower and fruit raiser, has contemplated pulling up 10,000 assorted fruit trees on his ranch near Perkins, leaving his pear and cherry trees only. He will plant hop vines only. His reason for doing this is the scarcity and high price of labor for handling fruit. He explains that it is much easier to get the necessary help for gathering the crop of hops.

San Diego.

GRAPE PICKING.—Union, September 29: Grape picking is in full progress throughout the Escondido, Poway and El Cajon valleys, and the crop is reported exceptionally good. There may be a few tons less raisins on account of dry weather, but for the same reason they will be richer in sugar.

PROFITABLE CREAMERY. — Imperial Press: W. B. Hage of San Diego was in Imperial Thursday looking after his interests. Mr. Hage is the proprietor of the local creamery, as well as one in San Diego, and also owns a controlling interest in a large creamery in San Francisco. He is thus qualified to speak with authority. Although the Los Angeles butter market has been low—being supplied with Eastern butter from Kansas, which has kept the price down—yet the local creamery at the present time is paying out $4000 a month at Imperial. This may be considered doing exceedingly well for an industry less than a year old.

San Joaquin.

MONEY IN CHESTNUTS.—Lodi Sentinel: The growing of chestnuts is comparatively a new business here, but there are very profitable orchards on Roberts island, Rough and Ready island and Banta. Mrs. Fogacci, on Rough and Ready island, has a pet tree which gives an enormous yield of excellent chestnuts. Having planted it herself, she sees that it has the best culture and claims the proceeds as pocket money. One season the yield sold for $196.60.

Santa Barbara.

A LARGE BEET.—Guadalupe Moon: As an example of the productiveness of land in this vicinity there is on display at J. B. Acquistapace's store a sugar beet weighing 26½ pounds, 29¾ inches in circumference at the largest place, and 25 inches in length. This beet was grown on the H. H. Johnson ranch, southwest of town, and in the same field are many which weigh 20 pounds. Much of the beet land in this vicinity is irrigated, but the field in which these beets grow is unirrigated. The land is near the beach, and is one of the best ranches in the vicinity, from the fact that irrigation is unnecessary.

Santa Clara.

PHENOMENAL GROWTH OF CORN.—San Jose Mercury: Five ears of corn on one stalk is a phenomenal growth, even for the Santa Clara valley. Two stalks are exhibited, each having five full grown and perfect ears of corn. They were grown on the ranch of Conrad Strickler of Edenvale. This is a hybrid variety of sweet corn formed from a cross of two common varieties, and the general yield is far above the average.

Santa Cruz.

CROPS DAMAGED BY HEAT.—Watsonville Pajaronian, September 29: News regarding the condition of fruit in the burned region came in very definite form last evening from a fruit grower of Vine Hill. He stated that the rain of yesterday did no damage, but that the heat of the fire and the heat of the sun two weeks ago combined, did great damage, and that on an average 25% of the grape and equal proportion of the apple crop are totally lost. Table grapes suffered most. While Happy Valley fruit growers still have table grapes to ship, but one box in ten Muscats are left, and the Tokay crop is utterly wiped out. Table grapes sustained about twice the damage of wine grapes. In Happy valley, this side of Vine Hill, it is estimated that one-third of the average crop, including all fruit, has been destroyed by heat.

NEW MOUNTAIN ROAD.—Watsonville Pajaronian: Henry Miller, the "cattle king," was in Watsonville in consultation with Supervisor J. A. Linscott in regard to the proposed road along the backbone of the mountain. Mr. Miller believes that the improvement should be made as speedily as possible. Aside from furnishing one of the most scenic drives in the State, it would afford a short and convenient means of travel to people of Santa Cruz and Santa Clara counties. Mr. Miller stated that he would give a free right of way across his Mount Madonna ranch for a public highway, and he felt certain that the Board of Supervisors of Santa Clara county was willing to assume its share of the responsibility in the matter at any time.

Sonoma.

CHAMPION HOP PICKER. — Windsor Herald: Bent Ward of Forestville began picking at six in the morning one day week before last on the Wohler ranch and at 10:30, just four and one-half hours later, when picking was suspended for the day, he weighed in 630 pounds. Had Ward been allowed to continue a whole day, it is stated by people who know that he would surely have picked a ton of hops in one day and his earnings would have been $20. This report of Mr. Ward's marvelous feat comes to us from Mr. Merrick, one of the bookkeepers at the Wohler ranch, and is true beyond doubt. It cost $18,000 to pick the hops on the Wohler ranch this year, and that sum of money was earned by the pickers in less than three weeks.

FINE WALNUT TREE.— Santa Rosa Press-Democrat: Thomas B. Hood has an English walnut tree that he set out himself over forty years ago. It is a fine tree now and there is a handsome crop of nuts. Mr. Hood says he has taken as high as $30 worth of nuts from the tree in one year.

GROWERS REFUSE TO SIGN CONTRACTS. — Sebastopol Standard: The grape growers in this section do not take very kindly to the five-year contract plan offered by the Wine Association, and are refusing to sign any contracts. The price being paid is $13 per ton in three payments, and 50 cents per ton off for every degree of sugar below 22%. This is giving those who are selling about $11.50 per ton and that in three payments.

HEN NEARLY OLD ENOUGH TO VOTE. — Petaluma Argus: W. A. Mills, a poultry fancier who resides near Penngrove, lost a fowl last week which had attained the unusual age of eighteen years. This fowl was a hen, and was one of the noted game chicken mothers of California. She was hatched upon the Mills ranch eighteen years ago and was the special pride of her owner. Roup, that fatal disease among fowls, claimed her as its victim. Mills had hoped to keep her until she had rounded out twenty years. Mills believes she was the oldest hen that ever cackled in the United States. Besides furnishing many defenders of records in the pit, her progeny has made many toothsome morsels for the table. The old hen had a remarkable record for fighting, and could whip fowls much larger and heavier than herself.

HORSES SINK IN SLIMY OOZE.—Petaluma Courier: William Ellis, who lives between Eden valley and Hearst, lost a valuable team of horses in Block lake, 4 miles north of the last named place, Tuesday, while on his way to Willits. He drove the horses into the lake to water them and they sank in the slimy ooze. It was impossible to extricate them and save their lives. The place is well known to teamsters and is supposed to be bottomless.

STALLION SOLD.—Petaluma Courier: Saturday twelve local citizens purchased the imported draft stallion Escape from Mr. Campbell of Stockton. He is a prize-winning Belgian. The purchase price was $3600. Following were the men who formed the company to buy Escape: R. S. Brown, David Risk, William Rutherford, E. Brandon, Edward Davidson, G. Andersen, M. De Martin, George Mason, A. J. Martin, Warren Davis, J. Cooney and D. Tomlin. Escape, No. 1299 (17548), winner of first prize at Liege in 1902, winner of first prize at International Live Stock Exposition, 1903, is a dark bay, weighing 2400 pounds.

Sutter.

RECLAMATION SCHEME. — Marysville Democrat: There is a movement on foot to form a new reclamation district in Sutter county, to include District 70 and all the territory bordering the river from the mouth of Butte slough to the Tisdale weir. It will be a "voluntary" reclamation district. If undertaken, dredgers will be used for leveeing. A committee consisting of Lon Summy, Surveyor Guy McMurtry, George Betty, Mark Girdner and Miss Edith Wilbur has been appointed to make further investigations and report at a meeting to be held in Meridian, October 7th.

PLOWING 6000 ACRES OF TULE LAND. — Yuba City special to Sacramento Bee: It is a generally accepted belief that Sutter's tule lands are the most productive of any land in the county, and it only needs a little capital to levee and drain them to bring them under a high state of cultivation. John Markley and associates now have a force of men and a number of large teams and plows turning up a tract of 6000 acres of this marshy land, all of which will be ready for cultivation next season. The tract is situated south of Sutter City. Several hundred acres of beans will be harvested this year from land prepared last season for cultivation.

Tehama.

WILL IRRIGATE 100,000 ACRES.—Corning special to Sacramento Bee: M. V. Steifer, who was recently granted a franchise by the supervisors of Tehama county to furnish the town of Corning and surrounding country with water for domestic purposes and for irrigation, has commenced operations. The contract has been let for boring wells to furnish 20,000 gallons of water per hour, and the erection of buildings, etc., will begin as soon as the pumping machinery, which has been ordered from the East, arrives. Mr. Steifer also has engineers at work estimating the cost and ascertaining the most feasible route for his ditch system, which will include about 100,000 acres of this part of the valley. The work, it is estimated, will cost from $700,000 to $1,000,000. The water will be taken either from storage reservoirs on Thomes creek or from the Sacramento river. The former will probably present fewer engineering difficulties.

MONEY IN ORCHARDS. — Red Bluff Cause: Wm. Gurnsey has an orchard of thirty-five acres of Muir peaches. He sold the crop this season for $1200. After paying all expenses, his net profit was $600. The 100-acre Bartlett pear orchard on the Cone place this season produced 900 tons of fruit. This fruit sold at $30 per ton, or $27,000 for the entire crop. It is estimated that the cost of caring for the orchard and picking the crop was not over $7000. Jas. Feeley recently shipped three carloads of dried peaches from Corning to the East. The returns showed that he received $6368 for the three carloads, or over $2000 per car.

Tulare.

EARLY LEMONS. — Visalia Times: Thomas A. Pogue, from Lemon Cove, states that the picking of the lemon crop at that place began Monday. The crop is early this year, practically two weeks ahead of last season. The yield will be about an average one, and the quality is in all respects up to the standard. Mr. Pogue states that the Lemon Cove Citrus Co. will ship out its first car as soon as enough lemons have been received, and that it will, without doubt, as last year, be the first car of new lemons to leave the State. All the orchards at the Cove have a good average crop.

THE LARGEST TREE.—W. H. Hart, the well-known millman, says that he recently found a tree north of Eshom valley that he believes is the largest of any tree yet discovered. At a height of 4 feet from the ground, although there is a burned place on the trunk at this point, the tree measures 113 feet in circumference, being 36 feet in diameter. From measurement, Mr. Hart says the tree is 400 feet in height. He believes there is more wood in the tree than in any other tree in the world. The tree is located in section 23-14-38.

Yuba.

TEN ACRES OF TOMATOES. — Marysville special to Sacramento Bee: On ten acres of "bottom" land on the Yuba river, near Marysville, a colored man set out 21,000 tomato plants last May. When the crop ripened he hauled more than 100 tons of tomatoes to the cannery of the Sutter Preserving Company in Yuba City, receiving for them $7 a ton. Had the heavy storm held off a few days longer he would have sold fifty tons more and would have had a gross income from his ten acres of about $1050 for the season. He paid $2 for the seed that started him in business, and had extra plants to sell that brought him $18.

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The safest, Best BLISTER ever used. Takes the place of all liniaments for mild or severe action. Removes all Bunches or Blemishes from Horses and Cattle, SUPERSEDES ALL CAUTERY OR FIRING. *Impossible to produce scar or blemish* Every bottle sold is warranted to give satisfaction Price $1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars.

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The Home Circle.

The Other Fellow's Job.

There's a craze among us mortals that is
cruel hard to name,
Wheresoe'er you find a human you will
find the case the same;
You may seek among the worst of men or
seek among the best,
And you'll find that every person is pre-
cisely like the rest.
Each believes that his real calling is
along some other line
Than the one at which he's working—
take, for instance, yours and mine.
From the meanest "me-too" creature to
the leader of the mob,
There's a universal craving for "the
other fellow's job."
There are millions of positions in the
busy world to-day,
Each a drudge to him who holds it—but
to him who doesn't, play;
Every farmer's broken-hearted that in
youth he missed his call,
While that same unhappy farmer is the
envy of us all.
Any task you care to mention seems a
vastly better lot
Than the one especial something which
you happen to have got.
There's but one sure way to smother
Envy's heartache and her sob:
Keep too busy at your own to want "the
other fellow's job."

—Success.

An Apple.

One day we were in the orchard
Shaking apples from a tree,
When a sturdy little laddie
With this question came to me:

"Can you tell me why the apples
That we don't want always drop,
While the very ones we long for
Stay 'way up there at the top?"

And I answered: "If all apples
Without effort were obtained,
We'd ne'er know the joy of climbing,
Nor how victories are gained.

"What we have without a struggle
Of less value seems to be
Than the apples we must climb for,
Hanging high upon life's tree.

"Gather, then, what lies about thee,
Nor be satisfied till thou,
Too, hast climbed and plucked the Apple
Hanging on the topmost bough.

—Elizabeth Ruggles.

The Lottery Ticket.

James Lanning was a mechanic, a young, honest man, whose highest ambition was to gain a comfortable home for himself and wife, and to be thought well of by his neighbors. He had built himself a house, and there still remained upon it a mortgage of $500; but this sum he hoped to pay in a few years if he only had his health. He had calculated exactly how long it would take him to clear off this incumbrance, and he went to work with his eyes wide open.

One evening James came home to his supper more thoughtful than usual. His young wife noticed his manner, and she inquired its cause.

"What is it, James?" she kindly asked. "Why I never saw you look so sober before."

"Well, I'll tell you, Hannah," returned the young man, with a slight hesitation in his manner. "I have just been thinking that I would buy a lottery ticket."

Hannah Lanning did not answer immediately. She looked down and smoothed the silken hair of her babe, which was chirping like a little robin in her arms, and the shades of her handsome features showed that she was taking time to think.

"How much will it cost?" she asked, at length, looking half timidly up into her husband's face.

"Twenty dollars," returned James, trying to assume a confidence which he did not feel.

"And have you made up your mind to buy it?"

"Well, I think I shall. What do you think about it?"

"If you should ask my advice, I should say do not buy it."

"But why so?"

"For many reasons," returned his wife, in a trembling tone.

She would not offend her husband, and she shrank from giving him advice which he might not follow.

"In the first place," she said, "I think the whole science of lotteries is a bad one; and then you have no money to risk."

"But, just look at the prizes," said James, drawing a "scheme" from his pocket. "Here is one prize of twenty thousand dollars, another of ten thousand, another five thousand, and so on. Something tells me that if I buy a ticket I shall draw a large prize. And then just think, Hannah, how easy I could pay all up for my house, and perhaps have a good handsome sum left."

The young man spoke with much earnestness and assurance; but he saw that there was a cloud upon his wife's brow.

"It seems to me that the chance of drawing a prize is very doubtful," said Hannah, as she took the scheme. "Here are many thousand tickets to be sold."

The babe tried hard to snatch the paper, and Hannah laid it aside.

"I think I shall run the risk," resumed James, glancing once more over the paper, and resting with a nervous longing upon the figures which represented the higher prizes. "There's Barney; he drew about eight hundred dollars a year ago."

"Yes, I know it," said Hannah, with more warmth than she had before manifested, "and what has become of the money? You know he has squandered it all away. Ah, James, money is of no use unless we come honestly by it."

"Honestly?" repeated the young man. "Surely, there's nothing dishonest in drawing a prize in a lottery."

"I think there is," kindly, but emphatically, replied the wife. "All games of hazard, where money is at stake, are dishonest. Were you to draw a prize of twenty thousand dollars, you would rob a thousand men of twenty dollars each; or at least, you would take from them money for which you returned them no equivalent. Is it not gambling in every sense of the word?"

"Oh, no! You look upon the matter in too strong a light."

"Perhaps I do; but yet so it looks to me. What you may draw some one else must lose; and perhaps it may be some one who can afford the loss no better than you can. I wouldn't buy the ticket, James. Let us live on the products of our honest gains, and we shall be happier."

James Lanning was uneasy. He had no answer for his wife's arguments; at least, no answer that could spring from his moral convictions, and he let the matter drop. But the young man could not drive the siren from his heart. All the next day his head was full of "prizes," and while he was at work he kept muttering to himself, "Twenty thousand dollars," "Ten thousand dollars," "Five thousand dollars," and so on.

When he went home the next night he was almost unhappy with the nervous anxiety into which he had thrown himself. The tempter had grasped him firmly, and whenever he thought of the lottery he saw nothing but piles of gold and silver. In short, James Lanning had made up his mind that he would buy the ticket. He went to the little box where he had already one hundred and twenty dollars laid up toward paying off the mortgage from his house. The lock clicked with a startling sound and when he threw back the cover he hesitated. He looked at his wife, and he saw that she was sad.

"Oh, I'm sure I shall draw a prize!" he said, with a faint, fading smile.

He took four half eagles from the box and put them in his pocket. His wife said nothing. She played with her baby to hide her sadness, for she did not wish to say more on the subject. She had seen that little pile of gold gradually accumulating, and both she and her husband had been happy in anticipating the day when the pretty cottage would be all their own. But when she saw those four pieces of gold taken away from the store she felt a foreshadowing of evil. She might have spoken again against the movement, but she saw that her husband was sorely tender on the subject, and she let the affair go to the hands of fate.

A week elapsed from the time that James bought his ticket to the drawing of the lottery, and during that time the young man had not a moment of real enjoyment. He was alternating between hope and fear, and therefore his mind was constantly on the stretch.

At length the day arrived. James went to the office and found that the drawing had taken place and the list of prizes had been made out. He seized the list and turned away, so that those who stood around should not see his face. He read the list through, but he searched for his number in vain. It was not there. He had drawn a blank. He left the office an unhappy man. Those twenty dollars which he had lost had been the savings of two months of hard labor, and he felt their loss most keenly.

When he returned home that night he told his wife that he had lost. She found no fault with him. She only kissed him, and told him that the lesson was a good one, even though it had been dearly bought.

But James Lanning was not satisfied. He brooded over his loss with a bitter spirit, and at length the thought came to him that he might yet draw a prize. He wished that he had not bought the first ticket, and he thought that if he could only get back his twenty dollars he would buy no more; but he could not rest under his loss. He was determined to make one more trial, and he did so. This time he purchased the ticket without his wife's knowledge. The result was the same as before. He drew a blank.

"Forty dollars?" was a sentence that dwelt fearfully upon the mechanic's lips.

"Oh, I must draw a prize!" he said to himself. "I must make up what I have lost. Let me once do that, and I'll buy no more tickets."

Another twenty dollars was taken from the little bank, another ticket was bought, another blank was drawn. At the end of three months, the little bank was empty, and James Lanning had the last ticket in his pocket. Ah, how earnestly he prayed that that last ticket might draw a prize! He had become pale and careworn, and his wife—poor, confiding soul!—thought he only repined because he had lost twenty dollars. When she would try and cheer him, he would laugh, and try to make the matter light.

"James," said his wife to him one day—it was the day before that on which the lottery was to be drawn in which he held the sixth ticket—"Mr. Rowse has been here to-day after his semi-annual interest. I told him that you would see him to-morrow."

"Yes, I will," said James, in a faint voice. "Yes to-morrow I shall see him."

Young Lanning thought of the lottery, and of the prize. This was his sixth trial, and he felt sure that he should draw.

The morrow came, and when James Lanning returned to his home at night he was penniless! All his golden visions had faded away, and he was left in darkness and misery.

"James, have you paid Mr. Rowse his interest yet?" asked Hannah.

The young man leaned his head upon his hands and groaned aloud.

"For heaven's sake, James, what has happened?" cried the startled wife, springing to the side of her husband, and twining her arm about his neck.

The young man looked up with a wild, haggard expression. His lips were bloodless, and his features were all stricken with a death hue.

"What is it? Oh, what?" murmured the wife.

"Go look in our box—our little bank!" groaned the poor man.

Hannah hastened away, and when she returned she bore an empty box in her hand.

"Robbed!" she gasped, and she sank tremblingly down by her husband's side.

"Yes, Hannah," whispered the husband, "I have robbed you."

The stricken wife gazed upon her husband with a vacant look, for at first she did not comprehend; but she remembered his behavior for weeks back; she remembered how he had murmured in his sleep of lotteries and tickets, of blanks and prizes, and gradually the truth broke in upon her.

"I have done it all, Hannah," hoarsely whispered the condemned man, when he saw that his wife had guessed the truth. "All, all has gone for lottery tickets. The demon tempter lured me; he held up glittering gold in his hand, but he gave me none of it. Oh, do not chide me! You know what I have suffered—what hours of agony I have passed—and you know how cold is my heart now. Oh, my wife, would to God I had listened to you!"

"Ah!" calmly whispered the faithful wife, as she drew her hand across her husband's heated brow. "Mourn not for what is lost. I will not chide you. It is hard thus for you to lose your scanty earnings, but their might be many calamities worse than that. Courage, James; we will soon forget it."

"And Mr. Rowse will foreclose the mortgage. You will be homeless," murmured young Lanning in broken accents.

"No; I will see that all is safe in that quarter," added Hannah.

At that moment the baby awoke, and the gentle mother was called to care for it. On the next day, at noon, Hannah Lanning gave her husband a receipt for fifteen dollars from Mr. Rowse.

"Here," said she, "interest is paid. Now let us forget all that has passed, and commence again."

"But how—what has paid this?" asked James, gazing first upon the receipt, and then upon his wife.

"Never mind."

"Ah, but I must mind. Tell me, Hannah."

"Well, I have sold my gold watch."

"Sold it!"

"But I can buy it back again. The man will not part with it, if I want it. But I don't want it, James, till we are able. Perhaps I shall never want it. You must not chide me, for never did I derive one iota of the pleasure from its possession that I now feel in the result of its disposal."

James Lanning clasped his wife to his bosom, and he murmured a prayer, and in that prayer there was a pledge.

* * * * * * *

Two years passed away, and during that time James Lanning lost not a single day from his work. He was as punctual as the sun, and the result was as sure.

It was late on Saturday evening when he came home. After supper, he drew a paper from his pocket, and laid it upon the table.

"There, Hannah," said he, while a noble pride beamed in every feature, "there is my mortgage. I've paid it—every cent. This house is ours; it is our own house. I've bought it with dollars, every one of which has been honestly earned by the sweat of my brow. I am happy now."

Hannah Lanning saw that her husband had opened his arms, and she sat down upon his knee and laid her head upon his shoulder.

"Oh, blessed moment!" she murmured.

"Yes, it is a blessed moment," responded her husband. "Do you remember, Hannah, the hour of bitterness that we saw two years ago?"

The wife shuddered, but made no reply.

"Ah," continued the young man, "I have never forgotten that bitter lesson; and even now I tremble when I think how fatally I was deceived by the tempter that has lured so many thousands to destruction."

"But its horror is lost in this happy moment," said Hannah, looking up with a smile.

"It's terror may be lost," resumed James, "but its lesson must never be forgotten. Ah, the luring lottery ticket has a dark side—a side which few see until they feel it."

"And are not all its sides dark?" softly asked the wife. "If there is any brightness about it, it is only the glare

of the fatal ignis fatuus, which can only lead the wayward traveller into danger and disquiet."

"You are right, my dear wife. You were right at first. Ah," he continued, as he drew the faithful being more closely to his bosom, "if husbands would oftener obey the tender dictates of the loving wife, there would be far less misery in the world than there is now."—Waverley Magazine.

Domestic Hints.

Frogs' Legs, Fried.—Only the hind legs and quarters are eaten. They come from the market dressed, and ready for use. Wash thoroughly, dip in egg and cracker crumbs, fry in hot lard or butter, and season with pepper and salt.

Corn Beef Hash.—Chop fine sufficient cold corn beef to make one pint; cold boiled potatoes in the same quantity. Mix meat and potatoes together; put them in a saucepan, with a tablespoonful of butter, teaspoonful of onion juice, a cup of stock and saltspoonful of pepper; stir constantly but carefully until it just comes to the boiling point; serve at once on buttered toast.

Ginger Snaps.—One pint of Porto Rico molasses, one pound of brown sugar, one pound of butter, two pounds of flour, two tablespoonfuls of ginger, two of cinnamon, half a tablespoonful of allspice, a teaspoonful of nutmeg and half an ounce of soda. Beat butter and sugar to a cream, add the spice and molasses, mix the soda with half of the flour and stir all together. Roll thin, cut in small cakes and bake in a moderate oven.

Rice Muffins.—Boil a scant half-cup of rice in salted water half an hour, drain well, and measure out four heaping tablespoonfuls of it into a mixing bowl. Stir into it while hot a heaping tablespoonful of butter. Beat one egg light, add to the rice and butter with a little salt, sift half a pint of flour with half a teaspoonful of baking powder, and stir in alternately with half a pint of milk. Pour the mixture into muffin rings or gem pans, which must be heated thoroughly and well buttered. Bake about twenty minutes.

Chicken Essence.—Fry one pound of sliced kernel of veal and a pound and a half of broken chicken bones in some butter without coloring them, adding two minced shallots, half a pound of minced carrots, and four ounces of onions. Moisten with one quart of white chicken bouillon, and reduce to glaze; moisten again and reduce once more, then add a bunch of parsley garnished with two bay leaves and as much thyme, four cloves and half a bottleful of white wine; boil, skim and cook slowly for half an hour, then strain through a napkin or silk sieve.

He Was in a Hurry.

We were waiting for a train at a station in the country. The station agent combined the offices of trainmaster, express agent, telegraph operator and the rest. He looked wise when you asked him a question, but he wasn't.

"Does the next train carry a dining car?" he was asked.

"Wal," he said, looking for a wide crack in the platform before he emptied an overload of tobacco juice from between his teeth. "I can't jes' rightly say. I ain't never tuk much inter-rest in them cyars."

"Does it stop at Swamptown?" was the next question. The agent was clearly uncertain on this point.

"Well, when is it due?" we asked, anxious to learn if he was certain of anything about the train.

"Wal, hits due at haf-pas' three, or haf-pas' fo', I furgit which," he replied. "I kinder open up 'bout an hour after dinner and set aroun' till dark. Hit don't make much difference to me when she comes."

"Good Lord, man, don't you know anything about the trains through your own station?" we asked in desperation.

"Wal, now," he said, and it was easy to see that his feelings were wounded; "yer might give er feller a chanst to larn. I ain't had this job but three weeks."

Hints to Housekeepers.

Most refreshing on a hot afternoon is a glass of iced tea, to which is added two or three bruised mint leaves.

Lamb is best left alone until it has nearly finished roasting, simply being placed in the oven, with a light dredging of salt and pepper. At almost the last stage, sprinkle it with paprika, add a little lemon juice, and minced thyme. Use grated breadcrumbs to thicken the gravy, instead of flour.

A very good tea punch without liquor is made by boiling for five minutes a pint of water, a pound of sugar and the chopped rind of a large lemon. Add to this a quart of freshly made tea, a rather strong infusion, the juice of four lemons, and half a teaspoonful of almond extract. Cool and pour over a block of ice in the punch bowl. Add to the last stoned cherries and whatever other fruit is desired.

For the sickroom a pleasant disinfectant is made by putting in a saucer some freshly ground coffee and lighting a piece of camphor gum on top of it. As this gum burns it emits the odor of roasting coffee, an aroma that is agreeable to most people. This perfume has the advantage of being healthful, and is to be preferred to the pastiles and incense powders, which to some are very sickening. The odor of the coffee will counteract any bad aroma in the room, and the fumes of the camphor will kill ordinary disease germs that may be floating around.

Lettuce should be prepared for the table several hours before serving. Pick it over carefully, discarding imperfect leaves, but leaving the hearts or center untouched. Wash leaf by leaf, daintily and tenderly, so as not to bruise, and leave in a pan of clear cold water for some little time. About an hour before serving, lay the lettuce gently in a wire salad basket and shake dry as possible, then put the basket in the refrigerator near the ice, but not on it. Cucumbers should be sliced thin several hours before using them, laid in a pan of ice water with several pieces of ice on top until time to serve. In slicing the cucumbers reject the end pieces, beginning the cutting where the seeds first appear.

Corned beef stew can either be made from the round or brisket. If the former is used it should be well larded, as otherwise it is apt to be dry in spite of the most careful cooking. The brisket, on the other hand, is always juicy and tender. Throw away the first water in which the boiling is begun after fifteen minutes, and in the renewed supply put cabbage, turnips, potatoes and parsnips. Let all simmer gently till the three latter can be mashed up with a spoon. Stir well till the gravy is creamy, when add a generous teaspoonful of prepared mustard. Put the meat in the center of the platter and use cabbage as garnishing, pouring gravy over all.

A Child's Logic.

There is often a depth of wisdom in the thoughts and sayings of the little ones which maturity has failed to fathom, and which those who are but "children of a larger growth" might do well to apply. Such wisdom was beautifully exemplified in the case of a little girl who once returned to her home from a jaunt in the woods, her face covered with mosquito bites.

"Why did you not drive them away?" said the mother.

"They would not go," said the child.

"Why did you not kill them?"

"It would not have been right," was the answer.

"But I have seen you kill them at home," urged the surprised mother.

"Yes, mamma," argued the child, firmly, "if they come into my house and bite me, I kill them. But if I go into the woods, that is their house, and I have no right to kill them."

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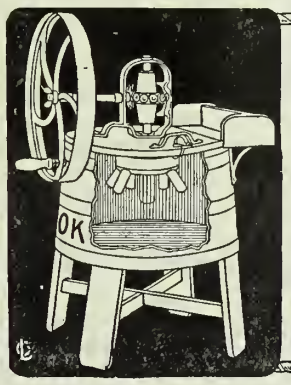
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IN SUBDIVISIONS.

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This great ranch runs up and down the west bank of the Sacramento river for 15 miles. It is located in a region that has never lacked an ample rainfall, and no irrigation is required.

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The closest personal inspection of the land by proposed purchasers is invited. Parties desiring to look at the land should go to Willows, California, and inquire for P. O. Eibe.

For further particulars and for maps, showing the subdivisions and prices per acre, address personally or by letter,

F. C. LUSK,
Agent of N. D. Rideout, Administrator of the Estate of H. J. Glenn, at Chico, Butte County, California

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The Markets.

San Francisco Produce Report.

San Francisco, October 5, 1904.

CHICAGO WHEAT FUTURES.

Wheat futures in Chicago were as follows for the week named, price being for No. 2 Red per bushel:

	Dec.	May.
Wednesday	$1 11⅜@1 13⅜	$1 12⅜@1 14¼
Thursday	1 13 @1 11⅞	1 13⅝@1 11⅞
Friday	1 11¼@1 12⅜	1 11¾@1 13¾
Saturday	1 11⅞@1 13¼	1 12¾@1 13¾
Monday	1 11⅞@1 14	1 12¼@1 14⅛
Tuesday	1 13¼@1 12½	1 13¾@1 12⅝

CHICAGO CORN FUTURES.

Prices of futures on No. 2 corn per bushel in Chicago were as follows for the week:

	Dec.	May.
Wednesday	50½@51⅞	48⅜@49⅞
Thursday	51⅞@50¾	49⅞@48⅞
Friday	50¼@51¼	48½@49¼
Saturday	50⅝@51⅝	48¾@49¼
Monday	50¾@51½	48⅞@49½
Tuesday	51¾@51½	49⅜@48¾

SAN FRANCISCO WHEAT FUTURES.

The range of values in San Francisco for No. 1 White wheat per cental was as follows:

	Dec., 1904.	May, 1905.
Thursday	$1 52 @1 53¼	$1 53¾@1 53¼
Friday	1 52⅞@1 53½	——@——
Saturday	1 53⅜@1 53½	1 54½@1 55¼
Monday	1 53⅜@1 52½	1 55⅛@1 54
Tuesday	1 52½@1 52¾	1 54⅛@1 54¾
Wednesday	1 52½@1 51¼	1 54 @1 52⅞

Wheat.

In the local market for this cereal there is not much life, but the tone is decidedly firm, and little likelihood of values touching materially lower levels the current season. Some do not hesitate to predict that prices will go considerably higher, but these predictions are made largely for the purpose of bulling the market, and to secure clients to invest on the long side in the speculative field. Members of Grain Boards and owners of "bucket shops" know that the general public cannot be induced to short the market to any noteworthy extent or sell what it does not possess, so in order to catch victims, the speculative dealer on the inside of the game is almost invariably predicting higher prices, while on the inside he may be a bear and be quietly shorting the market against his clients. But the outsider who operates in options on small margins, be he a bull or a bear, is taking desperate chances, and in nine cases out of ten will come out worsted. The future of the market cannot be outlined to a certainty by any one. Shrewd ones have tried it time and again, backing their opinions with millions of coin, and then failed. If there was any assurance that wheat values would long remain near present levels, many California farmers who have abandoned wheat growing would find it decidedly profitable to again cultivate this cereal.

California Milling	$1 50	@1 62½
Cal. No. 1 shipping, alongside	1 45	@1 47½
No. 1 Oregon Club	1 45	@1 47½

PRICES OF FUTURES.

During past week the range on options was:
December, 1904, delivery, $1.53½@1.51¼.
May, 1905, delivery, $1.55¼@1.52⅝.

Wednesday, at the forenoon session of Exchange, December, 1904, wheat sold at $1.52½@1.51¼; May, 1905, $1.54@1.52⅝.

Ocean freights and prices for wheat, as compared with a year ago, are as follows:

	1903-04.	1904-05.
Liv. quotations	-s-d@-s-d	-s-d@-s-d
Freight rates	12½@16s	21¼@—s
Local market	$1 40@1 42½	$1 45@1 47½

LOCAL STOCKS OF GRAIN.

Stocks of grain in near-by warehouses on Oct. 1 and Sept. 1:

Tons.	Oct. 1.	Sept. 1.
Wheat	*63,819	37,876
Barley	†51,167	40,585
Oats	2,974	1,780
Corn	186	458

*Including 20,447 tons at Port Costa, 35,381 tons at Stockton.
†Including 34,198 tons at Port Costa, 12,000 tons at Stockton.

Stocks of wheat in near-by warehouses on the 1st inst. show an increase of 25,943 tons for the month of September. A year ago there were 51,312 tons of wheat in near-by warehouses.

Flour.

The flour market presents a generally firm tone, in sympathy with wheat, but much of the flour changing hands in a wholesale way is at lower figures than it could be produced for at present price of wheat. Especially is this the case with ordinary grades which have been in the market some time and which holders are anxious to dispose of.

Superfine, lower grades	$3 25	@3 50
Superfine, good to choice	3 50	@3 75
Country grades, extras	4 25	@4 50
Choice and extra choice	4 50	@5 00
Fancy brands, jobbing	5 00	@5 25
Oregon, Bakers' extra	3 75	@4 25
Washington, Bakers' extra	3 75	@4 40

Barley.

Market shows healthy condition for both brewing and feed descriptions of the common variety of barley, demand being good for shipment and also on local account. Chevalier is not changing hands to any great extent, failing to command the premium of previous years over the price of ordinary barley. Chevalier has commanded 50 per cent more than ordinary brewing, for shipment to Europe, going mainly to ale brewers. That it brought such stiff figures is the principal cause of the variety being so much cheaper to-day. On account of the high prices of Chevalier, ale brewers experimented with the common variety of barley and found they could make it answer their purpose. This season shippers have refused to pay 10 per cent more for Chevalier than for the common variety of barley, although with only this difference the Chevalier variety would seem to be decidedly the cheaper grain. One full cargo of 56,023 centals barley, valued at $67,810, was cleared Monday for Scotland.

Feed, No. 1 to choice	$1 11¼@1 12½	
Feed, fair to good	1 07½@1 10	
Brewing, No. 1 to choice	1 12½@1 20	
Chevalier, No. 1 to choice	1 20	@1 25
Chevalier, common to fair	1 00	@1 10

Oats.

Firmness continues to prevail in the oat market, with fairly active demand, and offerings only moderate for this time of year. Stocks in city warehouses were reported at 3000 tons on 1st inst., as against 1800 tons on September 1st. A year ago the stocks in same warehouses were 6700 tons. Fancy seed oats are especially in light supply and in a small way are bringing an appreciable advance over top quotations.

White oats, fancy feed	$1 42½@1 45	
White, good to choice	1 35	@1 40
White, poor to fair	1 25	@1 32½
Milling	1 40	@1 45
Black oats	1 25	@1 65
Red, fair to choice	1 22½@1 47½	

Corn.

Spot supplies are small and are mostly Eastern of rather common quality. There were less than 200 tons in city warehouses on 1st inst., as against nearly 500 tons a month ago. Last year on October 1st 475 tons corn was reported on hand. Quotable values remain practically as last noted, and little pressure to realize.

Large White, good to choice	$1 45	@1 50
Large Yellow	1 45	@1 50
Small Yellow	1 60	@1 65
Egyptian White	——	@——
Egyptian Brown	——	@——
Eastern, in bulk	1 32½@1 40	

Rye.

No heavy quantities offering, neither is the demand active at prices asked.

Good to choice	$1 35	@1 40

Buckwheat.

Market is bare of spot supplies and values wholly nominal at $1.90@2.25 for good to choice.

Beans.

The bean market shows unsettled condition. There is considerable inquiry for new beans of prime to choice quality, but not much activity, owing to stiff figures generally asked. In not a few instances growers are holding out for materially higher prices than are now quotable or than are now demanded for choice of 1903 crop. Pinks are quotably higher.

Pea, fair to good, 100 lbs	$2 75	@3 00
Small White, good to choice	2 90	@3 10
Large White	2 20	@2 50
Pinks	2 90	@3 15
Bayos, good to choice	2 35	@2 50
Red Kidneys	4 50	@5 00
Reds	4 00	@4 50
Limas, good to choice	3 90	@4 00
Black-eye Beans	2 25	@2 50

Dried Peas.

Recent sales of Humboldt Green have been made at $2.35@2.50, the lower figure for only fair quality. There is inquiry for Niles, but none at present in stock.

Green Peas, California	2 00	@2 50
Garbanzos, Large	3 25	@3 50
Garbanzos, Small	3 00	@3 25

Hops.

The market continues strong, with few hops offering from first hands, and according to all accounts, not many remaining in the hands of growers. It is estimated that almost 90% of the California crop of hops has passed out of first hands, 50% of the Oregon, 60% of the Washington, and 70% of the New York crop. The Washington crop, it is stated, will not reach 30,000 bales, of which about half will come from the western part. A press dispatch from Portland says: "There was excitement in the hop market when the news got abroad that 29c. had been offered. The prediction was freely made that no hops could be secured at the advanced price, but the temptation was too strong for some of the farmers, and the prices offered began to result in sales. By the close of the day 1055 bales had been sold, prices ranging from the opening at 28½c. to the top figure reported of 30c.—the latter price being paid for extra quality." The New York Producers' Price Current says: "Buying in New York State has continued very lively and the best lots in most all producing sections are rapidly going out of growers' hands. The prices paid have been 30@31c. and the latter figure is now very general for strictly choice hops. Brewers are showing more interest in the situation and some heavy sales are reported to them. The reports from London indicate a strong market, and there is a good demand there for 1903 Pacifics. Continental markets remain firm."

California, good to choice, 1904 crop	27	@30

Wool.

There is no lack of demand for good to choice wools and at fully as firm figures as have been lately current. No opportunity is given offerings from first hands to accumulate in this center, San Francisco being now little more than a grading and packing point in the wool trade, buyers going after the wool in the interior, and this is likely to be the case for some time to come.

SPRING.

Northern, free	22	@—
Northern, defective	17	@20
Oregon, good to choice	20	@22
Nevada	15	@20

FALL.

Northern	14	@17
San Joaquin and Southern, free	12	@14
San Joaquin and Southern, defective	8	@10
Southern lambs, as to quality	8	@14

Hay and Straw.

Much of the hay which has arrived since the heavy rainstorm in September is showing more or less damaged condition, and for this stock the market is weak. Once this rain-damaged hay is out of the way, a firmer market will probably be experienced. Tendency now on desirable qualities, particularly of Wheat hay, is to firmer figures than have been lately current.

Wheat, good to choice	$13 50	@ 14 00
Wheat and Oat	9 00	@ 12 00
Tame Oat, fair to choice	8 00	@ 12 00
Wild Oat	8 00	@ 10 00
Barley	8 00	@ 10 00
Alfalfa	9 00	@ 11 00
Compressed	11 00	@ 14 50
Straw, ₱ bale	30	@ 60

Millstuffs.

Bran is in very fair supply, but is being quite steadily held. Stocks of Middlings are only moderate and values for same without quotable change. Market for Rolled Barley and Milled Corn is firm at the figures quoted.

Bran, ₱ ton	$20 00	@ 22 00
Middlings	24 00	@ 28 00
Shorts, Oregon	21 00	@ 23 00
Barley, Rolled	23 00	@ 24 00
Cornmeal	32 00	@ 32 50
Cracked Corn	32 50	@ 33 00
Oilcake Meal	31 50	@ 33 00

Seeds.

Prices for new Alfalfa Seed have not yet been established. Advices are being awaited from Utah as to what figures will be asked for the product of that State. Market for Mustard Seed is quiet. Bird Seeds are without quotable change.

Flax	$1 75	@ 2 25
Mustard, Yellow	3 15	@ 3 25
Mustard, Trieste	3 25	@ 4 50
		Per lh.
Canary	7	@—
Rape	1¾	@ 2½
Hemp	3½	@—
Timothy	5	@ 5½

Honey.

Business continues of a light order and is mainly on local account. Holders are generally firm in their views, particularly on choice White, the proportion of offerings of this sort being small. This year's crop of California Honey was very light, but there is some still on hand from last season, mostly in the San Joaquin section.

Extracted, White Liquid	0	@ 6½
Extracted, Light Amber	5	@ 6
Extracted, Amber	4	@ 4½
Extracted, Dark Amber	3½	@ 3¾
White Comb, 1-frames	12½	@13
Amber Comb	9	@11

Beeswax.

Not much arriving from any section. Desirable offerings are readily placed at full current rates.

Good to choice, light ₱ lb	29	@30
Dark	27	@28

Live Stock and Meats.

Market for best qualities of Beef is moderately firm, with demand fair. Veal is in tolerably good supply and values barely steady. Mutton and Lamb are in ample stock for current needs, prices remaining quotably as last noted. Hogs are arriving rather freely, but demand is good, especially for desirable packing stock, and current values are being well sustained.

Allowing for the shrinkage of about 50%, which is exacted in buying cattle on the hoof, live cattle command as much or more per pound than dressed beef, the shrinkage exacted being the slaughterers' profit.

The following quotations for beef and mutton are based on prices realized by slaughterers from wholesale dealers:

Beef, 1st quality, dressed, net ₱ lb	6	@ 6½
Beef, 2nd quality	5	@ 5½
Beef, 3rd quality	4	@ 5
Mutton—ewes, 6½@7c; wethers	7	@ 7½
Hogs, hard grain, 140 to 200 lbs	4¾	@—
Hogs, large, hard, over 200 pounds	4⅛	@ 4¼
Hogs, small, fat	4⅛	@ 4¼
Veal, large, ₱ lb	7	@ 8
Veal, small, ₱ lb	8	@ 9
Lamb, spring, ₱ lb	8	@ 8½

Hides, Skins and Tallow.

Offerings of Hides in prime to choice condition are meeting as a rule with prompt custom at prevailing rates, which remain as last quoted. Market for Pelts and Tallow is steady, with a fair movement.

Nothing but select hides, clean and trimmed will bring full figures. Culls of all kinds, either from grubs, cuts, hair slips, side brands or murrain, are not always readily placed at the lower figures.

	Sound.	Culls.
Heavy Steers, over 56 lbs	— @10	— @ 9
Medium Steers, 48 to 56 lbs	9 @ 9½	8 @ 8½
Light Steers, under 48 lbs	8½@ 9	8 @—
Heavy Cow Hides, over 50 lbs	9 @ 9½	8 @ 8½
Light Cow Hides, under 50 lbs	8½@ 9	8 @—
Stags	6½@ 7	6 @ 6½
Wet Salted Kip	— @ 9½	— @ 8½
Wet Salted Veal	— @10	— @ 9
Wet Salted Calf	— @11	— @10
Dry Hides	— @16½	— @15½
Dry Kip and Veal, 11 to 16 lbs	— @13	— @12
Dry Calf, under 4 lbs	18 @19	16 @17
Pelts, long wool, ₱ skin		1 00@1 50
Pelts, medium, ₱ skin		70@ 90
Pelts, short wool, ₱ skin		40@ 60
Pelts, shearling, ₱ skin		15@ 30
Horse Hides, salted, large prime, each		2 75@——
Horse Hides, salted, medium		2 50@——
Horse Hides, salted, small		2 00@——
Horse Hides, dry, large		1 75@——
Horse Hides, dry, medium		1 50@——
Horse Hides, dry, small		1 00@——
Tallow, good quality		4 @4½
Tallow, poorer grades		2½@3½

Bags and Bagging.

Little doing in this department. There is no evidence of any inquiry for Grain Bags, speculative or otherwise, despite the extremely low rates prevailing.

Bean Bags	4¾@5
Fruit Sacks, cotton	6½@7½
Fruit Sacks, jute, as to quality	5¾@7
Grain Bags, Calcutta, 22x36, spot	5 @5¼
Grain Bags, San Quentin, ₱ 100	4 50 @—
Wool Sacks, 4-lb	32 @—
Wool Sacks, 4½-lb	30 @—

Poultry.

Market has lacked firmness for most kinds of poultry, especially for California Young Chickens, owing to heavy arrivals of Eastern, and the latter, being larger than domestic, receive the preference. Large and fat Old Chickens sold tolerably well. Hens which would dress about 7 lbs. brought $11 per doz. Fat Ducks and Geese were in fair request. Young Pigeons of desirable size were in tolerably good supply.

Turkeys, Young, ₱ lb	18	@ 22
Turkeys, live gobblers, ₱ lb	14	@ 15
Turkeys, live hens ₱ lb	15	@ 16
Hens, California, ₱ dozen	4 50	@ 5 00
Hens, large	5 50	@ 6 50
Roosters, old	4 50	@ 5 00
Roosters, young (full-grown)	4 50	@ 5 50
Fryers	3 50	@ 4 50
Broilers, large	2 50	@ 3 50
Broilers, small to medium	2 00	@ 2 50
Ducks, old, ₱ dozen	4 50	@ 5 00
Ducks, large young, ₱ dozen	4 50	@ 6 00
Geese, ₱ pair	1 50	@ 1 75
Goslings, ₱ pair	1 75	@ 2 25
Pigeons, old, ₱ dozen	1 25	@ ——
Pigeons, young	1 50	@ 2 00

Butter.

There are no great quantities of fresh butter arriving, but of other than very choicest there is more than there is demand for at current rates. Cube butter, California and Eastern, is being cut up in large quantities and is taking the place of fresh. Much of this held stock is showing better quality than most of the butter now being produced.

Creamery, extras, ₱ lb	28	@29
Creamery, firsts	25	@26
Creamery, seconds	21	@23
Dairy, select	24	@26
Dairy, firsts	22	@23
Dairy, seconds	18	@20
Mixed Store	14	@—

Cheese.

Fancy new flats are in light supply and good request, market for this description ruling firm. There is no scarcity of old flats. Supplies of Young Americas are not large, but demand for them is not brisk. Eastern cheese is being quite steadily held here, with tendency to more firmness at primary points.

California, fancy flat, new	10½	@11
California, good to choice	9½	@10
California, fair to good	9	@ 9½
California, "Young Americas"	10	@11
Eastern	10	@13

Eggs.

Choice fresh are arriving very sparingly. Some very select are selling in a small way above quotations. Ordinary fresh are not receiving much attention, and have to come into close competition with cold storage eggs. Eastern fresh are offering at lower prices than are exacted for select California cold storage stock.

California, select, large, white and fresh	38	@—
California, select, irregular color & size	30	@35
California, good to choice store	26	@30
Eastern firsts	23	@25
Eastern seconds	20	@22

Vegetables.

There were no radical changes in quotable values or general tone. Most of the Tomatoes were over-ripe and for this class of stock the market was weak; some of sup rior quality sold above outside quotations. Choice Corn was not plentiful, neither were tender Peas or fine String Beans. Onions were in good supply, with market slow and favorable to buyers.

Beans, Lima, ₱ lb	3	@ 3½
Beans, String, ₱ lb	2½	@ 3½
Beans, Wax, ₱ lb	4	@ 4½
Cabbage, choice garden, ₱ 100 lbs	75	@ 1 00
Corn, Green, ₱ crate	75	@ 1 25
Cucumbers, ₱ box	30	@ 50
Egg Plant, ₱ box	40	@ 65
Garlic, ₱ lb	4	@ 4½

Okra, Green, ℔ box	40	@	60
Onions, Yellow Danver, ℔ ctl	1 00	@	1 20
Onions, White, ℔ ctl	95	@	1 00
Peas, sweet garden, ℔ lb	3	@	4
Peppers, Green, ℔ box	35	@	60
Summer Squash, ℔ box	40	@	65
Tomatoes, box	15	@	50

NOTE.—Large boxes are what are known to the trade as "pay boxes," which have to be returned or paid for. They are open top, with hand holes in the ends, and weigh when filled from 50@60 lbs gross. Small boxes are free boxes, about the same as the regular fruit box, weigbing when full from 20 to 30 lbs. gross.

Potatoes.

The market has been decidedly quiet for potatoes most of the week under review, with little demand other than local, and no active inquiry from local handlers. Quotable values remained about as last quoted, but under selling pressure the acceptance of lower figures would have been necessary. Sweets were in fairly liberal supply and were offered at a decline from asking figures of previous week.

Salinas Burbanks, ℔ cental	90	@	1 30
Potatoes, white, ℔ cental	60	@	75
Sweet Potatoes, ℔ cental	1 00	@	1 20

Fresh Fruits.

Strictly choice to select Apples were not in heavy stock, and were favored with a tolerably firm market, but common qualities were plentiful and not readily disposed of, even at low figures. Pears now coming forward are mostly Winter Nelis and cooking varieties, with demand for these rather slow, more seasonable fruit receiving the preference. Bartlett Pears are offering out of cold storage at rather stiff prices. Peaches now on market are principally Salways from the northern part of this State and from Oregon; for such as show good to choice condition tolerably good figures are being realized. Figs were in moderate supply and inquiry for them quite limited. Pomegranates did not meet with very much attention, and coming in packages of numerous shapes and sizes, sold at a wide range of prices. Grapes were in quite liberal receipt, both table and wine varieties, but were mostly more or less rain damaged, and in consequence met in the main with a weak market. Melons of all kinds were in ample supply for the current demand. Berries were not in heavy receipt, and it was the exception where they were choice; only latter kind was sought after.

Apples, fancy, ℔ 50-box	1 35	@	1 50
Apples, good to choice, 50-lb. bx	1 00	@	1 25
Apples, fair to good, ℔ box	65	@	1 00
Blackberries, ℔ chest	2 00	@	3 00
Cantaloupes, ℔ crate	75	@	1 25
Figs, Black, ℔ small box	50	@	75
Grapes, Black, ℔ crate	30	@	60
Grapes, Muscat, ℔ crate	30	@	60
Grapes, Cornicbon, ℔ crate	40	@	65
Grapes, Tokay, ℔ crate	30	@	65
Grapes, Isabella, ℔ crate	40	@	75
Grapes, Verdel, ℔ crate	30	@	50
Grapes, large open boxes	50	@	1 25
Huckleberries, ℔ lb	8	@	11
Nutmeg Melons, ℔ box	40	@	65
Peacbes, ℔ small box	40	@	75
Pears, Winter Nelis, ℔ box	60	@	1 25
Pears, Cooking, ℔ box	35	@	60
Persimmons, ℔ regular box	75	@	1 00
Plums, Coe's Late Red, ℔ large bx	1 25	@	1 50
Pomegranates, ℔ small box	50	@	75
Pomegranates, ℔ large box	1 00	@	1 50
Quinces, ℔ box	40	@	60
Raspberries, ℔ cbest	4 00	@	6 00
Strawberries, Longworth, ℔ chest	6 00	@	8 00
Strawberries, large, ℔ cbest	2 50	@	5 00
Watermelons, ℔ doz	1 00	@	3 00

Dried Fruits.

The market for most kinds of cured and evaporated fruits shows generally healthy condition. Apricots are not offering in large quantity from either first or second hands, and values are being well maintained at the quoted range, especially for most desirable qualities. Tendency on Apples is to easier figures than have been lately ruling, owing to weakness East and prospects of local market being loaded up with imported stock at lower figures than have been lately current for domestic. In any event, trade will be largely restricted for Pacific Coast Apples, in consequence of Eastern being plentiful and cheap. Peaches are in good request and market is inclining in favor of sellers, especially for standard or medium qualities, the proportion of supplies of this sort being light. Pears make a limited display, and market for choice to fancy is decidedly firm, with every prospect of so continuing throughout the season. Nectarines are in light stock, as are also Pitted Plums, and market for choice of both kinds is showing firmness. Prune market has developed no noteworthy changes since last review. Large sizes are not plentiful and are rather firmly held. Small Prunes are not being crowded to sale at the low prices ruling on same. The steamer City of Puebla sailing the past week for British Columbia carried 51,000 lbs. dried fruit, including 21,300 lbs. Prunes. The steamer Sonoma for Australia took 150,000 lbs. dried fruit, 55,400 lbs. being Prunes and 24,600 lbs. Apricots.

EVAPORATED OR BLEACHED.

Apples, 50-lb boxes, rings, pressed, good to choice	5½@ 6
Apples, extra choice to fancy, 50-lb boxes.	6 @ 6½
Apricots, Moorpark	8 @10½
Apricots, Royal, good to choice, ℔ lb	7½@ 8½
Apricots, Royal, fancy	9 @10
Figs, 10-lb box, 1-lb cartons	50 @65
Nectarines, Red, ℔ lb	5 @ 6
Nectarines, White and Yellow	5½@ 6½
Peaches, unpeeled, good to choice	6½@ 7½
Peaches, unpeeled, fancy to extra fancy	8 @ 8½
Pears, standard, ℔ lb	6½@ 7
Pears, choice to fancy	8 @10
Plums, Black, pitted	5½@ 6½
Plums, Red, pitted	6½@ 8
Plums, Yellow, pitted	6½@ 7½
Prunes, Silver, good to fancy	3½@ 7
Prunes, in bags, 4 sizes, 1¼@1¼c; 40-50s, 3¼@3¼c; 50-60s, 2½@2¾c; 60-70s, 2@2¼c; 70-80s, 1½@1¾c; 80-90s, 1@1¼c; 90-100s, ¾@⅞c; small, ⅝@⅝c.	

COMMON SUN-DRIED.

Apples, sliced	3½@ 4½
Apples, quartered	3½@ 4½
Figs, White, in bulk	2 @ 2½
Figs, Black	2½@ 3½

Raisins.

Business is of fair volume. The steamer Sonoma, sailing the past week for Australia, carried 72,200 lbs. Raisins, and about 6,000 lbs. went out on steamer Gaelic for Asia. In quotable values or the general tone there are no changes.

CROP OF 1904.

(Fresno delivery except otberwise specified,)

London Layers, 2-crown, 20-lb box	87½@——
London Layers, 3-crown, 20-lb box	90 @——
Fancy Clusters, 4-crown, 20-lb box	1 35 @——
Dcbesas, 20-lb box	1 85 @——
Imperials, 20-lb box	2 25 @——
2-Crown Standard loose Muscatel	2¾c
3-Crown Standard	3¼c
4-Crown Standard	4 c
Seedless Thompsons	4½c
Seedless Sultanas	3¼c
Fancy, 16-oz. Seeded	5¼c
Choice, 16-oz. Seeded	4¾c
Fancy, 12-oz. Seeded	4¾c
Choice, 12-oz. Seeded	3¾c
Bleached Sultanas, Woodland Dist., 50's	3½@5c
Bleached Thompsons, Woodland Dist., 50's	4½@8c

Citrus Fruits.

Not much movement in Oranges. There are fair supplies of Valencias, and they are being steadily held. Lemons met with considerable inquiry, particularly the best grades, but stocks were ample for demand and there were no appreciable changes in prices. Limes were offering at unchanged figures, there being no scarcity of this fruit.

Oranges, Valencias, ℔ box	2 25	@	3 50
Lemons, California, select, ℔ box	2 75	@	3 25
Lemons, California, good to choice	2 25	@	2 75
Lemons, California, fair to good	1 25	@	2 25
Grape Fruit, ℔ box	2 00	@	3 00
Limes, Mexican, ℔ box	4 50	@	5 00

Nuts.

Not many Almonds offering from first hands and not much demand at top figures lately prevailing. Not only is this year's California crop light, but the quality is decidedly below the average. The Walnut crop in this State is large, but it is feared a considerable percentage will prove to be more or less off in quality; for choice Walnuts there will be an active demand.

Nonpareil Almonds	13 @16
I X L Almonds	12½@14
Ne Plus Ultra Almonds	12 @13
Languedoc Almonds	9½@10½
Peanuts, fair to prime	5 @ 6
Cal. Walnuts, No. 1 soft shell	11 @—
Cal. Walnuts, No. 2 soft shell	9 @—
Cal. Walnuts, No. 1 hard shell	10½@—
Cal. Walnuts, No. 2 hard shell	8½@—

Wine.

The wholesale wine market is without special change, dry wines of 1903 continuing quotable at 15@18c per gallon, although it is doubtful if free purchases could be made at this date at or near the lower figure. Sweet wines of last vintage are held at 30c per gallon at the wineries. Dry wine grapes are quoted at $14@18 per ton, and rumors of $20 per ton being paid in the interior for some very select. The prices are based on the grapes showing at least 22% sugar. Many grapes are deficient in sugar, and for every degree under 22% a deduction of about 50c per ton is made. On sweet wine grapes the quotable range may be said to be $9@12 per ton. Receipts of wine at San Francisco last week were 283,130 gallons, and for preceding week were 297,250 gallons. Receipts for September were 1,412,780 gallons, and for corresponding month last year were 1,148,100 gallons. The steamer San Juan, sailing October 1st, carried 51,213 gallons and 28 cases, including 47,081 gallons for New York.

Amador Oiled Roads.

Regarding oiled road work in Amador county the State Department of Highways reports that the road between Ione and Jackson (12 miles) was oiled in 1903. In some places the road consists largely of rock, in others of the natural earth.

Before oiling, the dust was scraped to the center. A wooden trough with many small holes bored in the bottom and attached to the rear of a wagon tank was used in applying the oil, 100 barrels to the mile being used for a strip 8 to 10 feet wide. The road was then harrowed, and after ten days a second application of the same quantity of oil was made.

The oil was heated to 180° by exhaust steam at a small expense, the expansion being about 10% the measuring for road purposes being done after heating. The specific gravity of the oil was 16° and the proportion of asphalt about 50%. It was obtained from Bakersfield at a cost of 90 cents per barrel delivered at Ione. The additional cost of applying to the road was $25 per mile.

Produce Receipts.

Receipts and exports of leading cereals and other California products for the past week and for the season to date, as compared with the corresponding time the previous year, are as follows:

FOR THE WEEK.		Since July 1, 1904.	Same time last year.
Flour, ¼ sks	97,196	1,255,357	1,631,708
Wheat, ctls	21,174	717,083	550,587
Barley, ctls	53,943	954,490	2,225,583
Oats, ctls	32,972	320,081	409,222
Corn, ctls	600	21,404	42,062
Rye, ctls	1,179	18,006	20,293
Beans, sks	12,303	61,567	103,493
Potatoes, sks	17,086	314,624	317,882
Onions, sks	2,370	43,727	54,296
Hay, tons	3,712	65,122	70,926
Wool, bales	2,239	17,813	16,852
Hops, bales	3,553	9,076	10,178

EXPORTS BY SEA.

FOR THE WEEK.		Since July 1, 1904.	Same time last year.
Flour, ¼ sk	15,984	933,124	1,143,956
Wheat, ctls	746	64,689	201,943
Barley, ctls	22,557	432,451	1,600,090
Oats, ctls	59	4,962	8,276
Corn, ctls	752	6,808	4,881
Beans, sks	1,346	21,918	7,143
Hay, bales	4,363	40,279	49,101
Wool, lbs	36,982	741,504	1,358,158
Hops, lbs	35,536	54,602	144,523
Honey, cases	2	419	304
Potatoes, pkgs	2,132	27,977	22,623

When to Suspect Brights Disease.

Here are the commonest symptoms: Weakness or loss of weight; puffy ankles, hands or eye-lids; Kidney trouble after the third month; urine may show sediment; failing vision; drowsiness. Any one of these should make you suspicious.

The deaths due to kidney trouble (technically known to physicians as Brights Disease) have attained frightful proportions, now amounting to over 140,000 deaths annually. The last census showns that the deaths have nearly doubled since 1890.

The Denver Medical Times quotes Dr. Loomis, the famous Bellevue Hospital authority, as saying that he believes from hundreds of autopsies that nine-tenths of men and women over forty have Brights Disease in some form. It is our national scourge. People must realize that kidney trouble (to be more accurate—Brights disease) is a serious thing.

If you have any of the above symptoms, you owe it to your family to start at once on Fulton's Renal Compound for Brights Disease, the only cure in the known world. $1.00 per bottle.

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THE POULTRY YARD.

What a Newcomer Did in Stanislaus.

To show what may be done in the poultry line in a modest way, H. A. Crafts gives the Tree and Vine the story of W. E. Deacon of Bakersfield as the story was given to him by Mr. Deacon himself. Mr. Deacon came originally from Indiana, and engaged with him in the business are his sons. Six years ago they started in with a few mixed hens; but the year following that of the beginning of the business they secured a pen of White Leghorns and a pen of Brown Leghorns, and they have been breeding from these two pens ever since. In two years they had about 500 chickens.

Their start was made in a very modest way. The first chicken house they built was of straw. They set posts in the ground, and on the inside of the posts they nailed wire netting to keep the chickens in. On the outside of the posts they nailed boards and filled the space between the wire netting and the boards with straw to keep the cold drafts out. Over the top they stretched poles, and upon the poles they spread a good coating of straw. They had good success even with this primitive arrangement; but in 1902, having prospered in their poultry business, they began to put up more pretentious buildings. They built houses of lumber, 12x16 feet and 6 feet to the square, with gable roof. The walls were built of matched siding in order to make them warm. Each chicken house was supplied with a closely fitting door, so that when need be the houses could be shut up tight. But in each house was a ventilator, so that the chickens, although snugly housed, were given good air.

These houses were placed in the midst of an alfalfa patch, on what is known as the colony plan, which means that no two chicken houses stand less than ten rods apart. The alfalfa field, of course, is fenced around its outer boundaries and the chickens from different houses are permitted to mix indiscriminately; but each chicken comes to know its own house and returns to it for roosting and laying purposes.

In 1902 Deacon & Sons increased their flock to 1000, and since that time they have made further additions to it, bringing the total up to 1300. In feeding they give the chickens all the wheat they will eat. In addition, they give the fowls bran mash and meat meal every day, and keep plenty of grit and ground oyster shells on hand. The chickens are also kept supplied with fresh water.

From November 1, 1902, for a period of nine months, the daily average egg product was forty dozen, and the eggs were sold at an average price of 27½ cents a dozen. For the remaining three months of the year the output of eggs averaged about twenty-five dozen a day and were sold at an average price of 22½ cents a dozen. The feed during the year cost on an average of $2 a day; one man can care for 1000 to 1500 chickens without any trouble at all.

Deacon & Sons use incubators and brooders for hatching and brooding, and, besides, quite a number of hens for the same purposes. They have brooder houses and allow the chickens to brood under any hens they see fit to. They find, however, that brooders are just as satisfactory in their results as hens.

The gross proceeds of their yards for the year ended Nov., 1903, amounted to $3475; expenses, $1475; net profit, $2000, from 1000 hens.

Experience in Solano County.

On November 1, 1902, says the Solano Republican, A. L. Reed established a poultry raising business on his place just north of Fairfield. He expended between $1200 and $1300 in the purchase of stock and in equipping the yards, which cover an area of about three acres of land. Including the yards, the range over which the chickens are allowed to run covers about seven acres.

From the start the business proved a success and yielded a profitable income on the investment. From January 1 to July 1 of the present year Mr. Reed realized a net profit from the business of over $50 per month. In fact, the average net income has been at about this figure ever since the business was established upon a paying basis.

At the present time there are about 1000 laying hens in the yard and a total of about 1500 chickens. The first incubator hatch for the fall season was made last week, yielding a large percentage of the setting. Mr. Reed expects to hatch over 2000 chicks during the coming fall and winter.

While the amount of the above mentioned profits does not at a glance appear to be large, still it is certainly a good profit on the amount invested, for the estimated value of the land, buildings and stock devoted to the business is only about $1500.

How One Man Conducts His Yards.

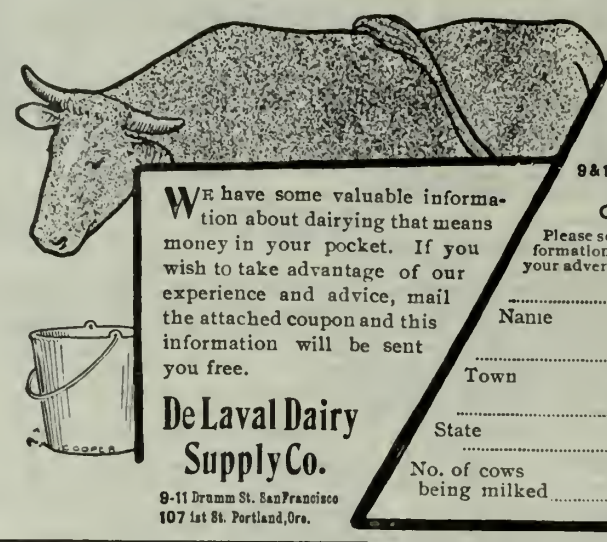
According to a floating story, whose origin is not known to us, John H. Carmany, a successful poultry man of East Oakland, attributes the healthfulness of his fowls to the care he takes in cleaning and ventilating his chicken houses.

In the first place, he built his houses and yards upon a piece of ground sloping to the south. He also gave his houses a southern exposure, with plenty of glass in their fronts, so that the sun's rays on every sunny day were admitted and not only warmed the interiors, but had a purifying effect at the same time. The warmth thus imparted to the buildings, as well as the combined bodily warmth of the fowls, as they roosted at night, made it possible to allow the door to each house to remain open each night, thus insuring perfect ventilation. After putting this method in practice he had no more trouble with swelled heads or filled throats among his chickens.

Then he constructed his roosts upon the movable plan, so that the poles could be taken out and thoroughly cleansed. He make a practice of once a week regularly of taking the poles out, thoroughly cleaning them, and painting their under sides with crude petroleum. At the same time he cleans out the houses and fumigates them thoroughly. In this way he rids them of all vermin.

Mr. Carmany sometimes keeps as many as 500 chickens. As he makes a specialty of producing eggs he keeps principally the White Leghorns, this breed being considered on the coast as the champion layer. He keeps, however, a limited number of Barred Plymouth Rocks and Wyandottes.

He exercises great care in the feeding of his chickens. He gives two rations daily. The morning ration consists of a mash, the component parts of which are bran, scraps of meat from the butcher's, chopped onions and the waste from the kitchen and table.

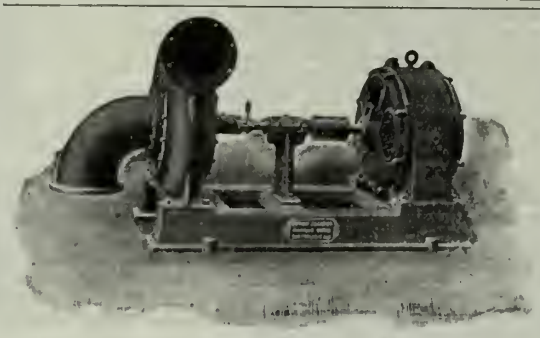


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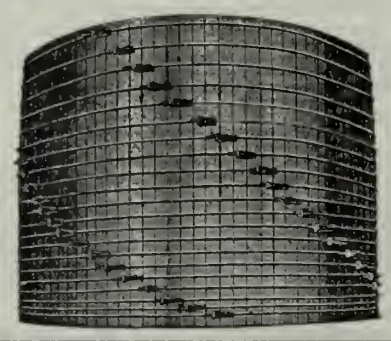
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THE VETERINARIAN.

Trying to Remove Quarantine.

According to the Sacramento Union, Dr. Charles Keane, State Veterinarian, has determined to remove the United States cattle quarantine line against Texas fever from the State as quickly as such a thing can be achieved, and ever since he has been in office he has been working hard to effect this muchly desired object, which is a matter of great importance to the cattlemen of the State.

In furtherance of this object the Government at Washington, D. C., has sent two official inspectors to the coast who will go over the formerly infected portions of the State in company with Dr. Keane and decide whether it is now safe to lift the quarantine in several counties.

The counties which Dr. Keane hopes to have relieved from the present quarantine are Kern, Tulare, Kings, San Luis Obispo, Madera, Fresno and Merced, and all of these counties will be carefully examined by the Government officials on whose report the Government will act.

The officials are Dr. J. Coleman and Dr. W. E. Hill of the United States Bureau of Animal Industries, both of whom are experts in cattle diseases. Dr. Keane states that in two of the counties mentioned there are one or two ranges where the fever still exists, but these are carefully quarantined and it does not seem right to quarantine the entire county on account of these scattered cases.

Should the Government desire to exempt these counties from quarantine it will result in great benefit to the animal industry of the State, and Dr. Keane will then devote his energies to stamping out the disease in the other counties of the State so that the entire State may be exempt from the Federal quarantine.

At present cattle can be shipped out of these counties which it is proposed to relieve from quarantine only after undergoing a special inspection, but if the quarantine is lifted entirely cattle will be moved at the will of the owner to any portion of the State.

Dipping for Ticks in Santa Barbara.

Santa Barbara County Veterinarian Greeley Saunders reported last week, says the Independent, that the cattle on over 75% of the ranches in Santa Barbara county had been dipped in oil for the purpose of eradicating the Texas tick, which at one time threatened great disaster among the herds in this section of the State. The effect of the disease, he says, has not been as great as has generally been believed outside of the county and what promised to be an epidemic at one time is now well under control. The greatest difficulty has been experienced on some of the ranches in the Santa Ynez valley, where the season has been very warm and dry—conditions which tend to propagate the tick and which render its eradication more difficult than in sections where the climate is cooler and the degree of moisture is greater. Some difficulty has been encountered through the appearance of dry murrain, a disease which results from the cattle eating too much dry feed. The recent rains, however, will serve to promptly correct this trouble, as plenty of green feed is expected to develop on the ranges within a couple of weeks. Mr. Saunders states that the Alcatraz distillate has proved to be most satisfactory material that has been used in dipping. Crude oil from the Pinal wells has been extensively used, but this has been found to be inferior for the purpose because of the high grade of the oil, which causes the hides of the cattle to blister. The distillate is applied by pouring a quantity into a trench about 7 feet deep after it has been nearly filled with water, the distillate floating on the surface to a depth of 6 inches. The cattle are driven into a narrow runway and upon a submerged galvanized toboggan slide. Gravity does the rest until the cattle struggle to the other side of the ditch and emerge over a cleated incline covered with the distillate, which clings to their hides for several days and destroys the ticks. It is an expensive process, but it does the work "just as the doctor ordered."

CATALOGUES of the thoroughbred Jersey cattle, the entire prize winning herd owned by the late Henry Pierce, will be issued soon. This catalogue is announced to be "the handsomest thing in its line ever printed in California," and will contain many beautiful halftone engravings made from photographs of the stock. There are seventy-five head of registered bulls, cows and calves. They are to be sold at auction without reserve by Fred H. Chase & Company, the leading live stock auctioneers on this coast, on Tuesday evening, October 25th. There is no better investment for any farmer than a well bred Jersey, be it bull, cow or heifer. One of these cows or heifers, bred to first-class Jersey bull year after year, will soon produce a young herd that will be worth much to its owner and be a continual source of profit. The bull calves can be registered and sold for good prices, while the heifers will produce enough milk and butter to pay a good profit annually. It does not cost any more to keep a full-blooded Jersey than a common scrub cow. This sale will furnish an opportunity to secure high class stock at your own price. Send to Fred H. Chase & Company, San Francisco, for a catalogue.

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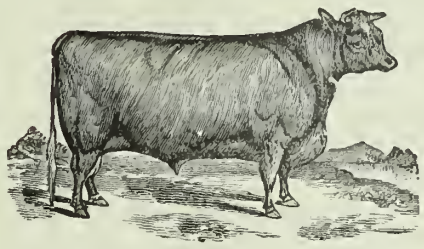
and other INSECTS killed by
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THE APIARY.

Bees in San Francisco.

Mr. W. A. Pryal writes to the American Bee Journal some things about bees in the metropolis which are not generally known to our readers. In the early history of the bee in San Francisco, there were no large parks, no vast stretches of truck-gardens as there are now, that produce vegetables that are shipped to the cities of the East by the train-load, to say nothing of feeding the hundreds of thousands of inhabitants of the city. Since then the native flora has been augmented by countless kinds of nectar-yielding flowers that make the bees of to-day in the City of St. Francis well contended. It has been stated by some, who have had insufficient information upon the subject, that bees will not thrive in this city. Such is not the fact.

There are a number of small apiaries in the city. From the owners of those I have talked with, I learn that bees do well, and sufficient honey is gathered during the winter to keep the colonies well supplied with stores. And there are apiaries out by Golden Gate Park, where the climate is not so mild, and the little workers roll in the honey there, too.

Mr. Philip Prior, the principal of one of the public schools of the city, is as ardent a worker among the industrious insects as he is a faithful and successful instructor of the rising generation. He tells me that he has averaged as high as 51 pounds of comb honey per colony. This is a pretty big yield, considering that his place is in the neighborhood of five or six miles of the Pacific Ocean. He never loses any colonies during winter. The bees are kept on an ordinary city lot in the rear of his home, which is on one of the principal streets of the city. Owing to the insects having to fly high to clear the residences, they have not been known to molest horses or pedestrians on the street. Bees were formerly kept on the same block by John McCormick some years since, and I learn that he made quite a success of his little apiary.

In connection with what I have stated above, I will relate that these bees got a great writing up in the city papers, and just because in following the dictates of Nature, they took advantage of the beautiful and warm day, and swarmed. In their simplicity they flew over the barn on the adjoining lot in the rear, and circled around in the play-grounds of the Hawthorne school. Perhaps these bees thought because they were the property of a pedagogue, they were right in seeking a school-yard for an alighting-place for their owner to come and hive them. But it proved bad for them. The children did not think it fun to see a bee at school; neither did the principal or the other teachers. According to the reports in the papers, the Health Department of the city was called to remove the bees. It seems, however, that the deputies forgot to bring their implements for extracting the business ends of the poor little innocents. At one time it was thought that it would be necessary to call out the fire department, as well as the tough gang that is used in gathering in superfluous dogs, stray cows, and omnivorous goats. At any rate, the clumsy deputies of the Heath Department, who, by the way, have had more experience in chasing the elusive microbe, used a few sulphur candles to subdue the bees, and, as a result, caused the bees to seek a more congenial alighting-place.

Right here I should like to ask why did not the fellow who got up the rhyming lines on the value of swarms start in with March and April? I have had swarms issue in the latter part of March, though the season usually begins in April hereabout.—W. A. Pryal.

Flight of Bees.—The following is taken from a fugitive clipping: Although it is a distance of 2½ miles from the Prior bee-ranch to Golden Gate Park, the Prior bees make the trip there, collect loads of honey and get back to the hive in two minutes, making a bullet-like flight at the surprising rate of 150 miles an hour.

Mr. Prior has demonstrated this by having an observer watching certain bee-favored places in the park and exactly timing the arrival there of bees he purposely sprinkled with flour as they issued from the hive. He has also kept time on the absence of the whitened bees.

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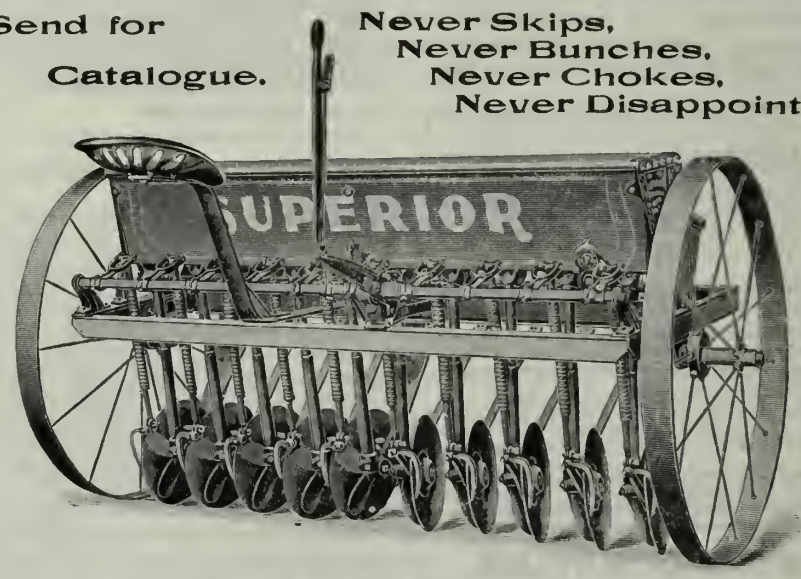
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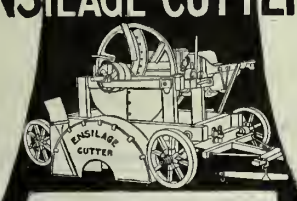


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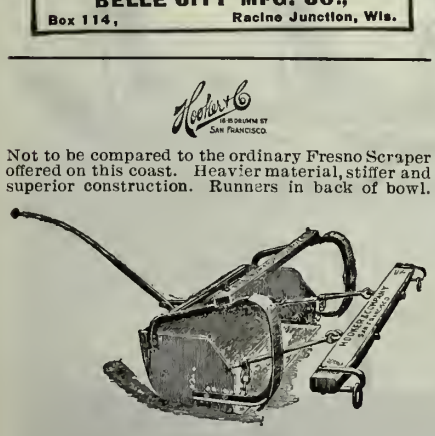
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THE FIELD.

Castor Beans and Castor Oil.

Our newer readers are impressed from time to time that there must be a good thing in castor bean growing and ask about it. The fact is that castor bean growing has been in the California mind for the last thirty years, and conditions have never been favorable for profit, though the plant grows well and bears abundantly. In answer to questions, however, we submit the following, which is a fair outline of the growing and oil making:

The castor oil plant is a native of all warm countries. It is very hardy and will thrive on almost any soil and in any situation, attaining a great height in one season after sowing the seed. The plant likes dry soils. The seeds should be sown in rows, 6 feet apart and 4 feet in the rows. Before sowing the seed should be steeped in hot water for twenty-four hours. After the plants are above ground the cultivation is the same as for corn, cotton or tobacco.

When the seed pods are ripe they suddenly burst open and scatter the seeds in all directions. Special arrangements must therefore be made for harvesting them. When the pods are seen to be turning brown, the spikes which bear them are cut off and taken to a clean-swept piece of hard ground, which may be enclosed with galvanized iron. Here they remain, being turned occasionally until the pods have emptied themselves. The husks are then removed by winnowing and the beans swept up and bagged. They must on no account be allowed to get wet. This work is so light that it can be done by young children.

According to the Queensland Agricultural Journal, the yield of beans varies between twenty and thirty bushels per acre. The oil is extracted by means of a hydraulic, a screw or a lever press. What is known as "cold-drawn castor oil" is that obtained by mere pressure. The first thing to do is to remove the external hull. This is effected by passing the beans through two revolving rollers, set in such a way as merely to crack the hull, which is then got rid of by winnowing. The decorticated seeds are then put into coarse hempen bags about 2 feet in diameter. Between each layer of bags there is placed a steel plate and about twenty or thirty bags, each holding about forty pounds of seed, are placed on top of each other in the press. The pressure must be applied gradually, and the oil running from the first press is the best. As the pressure is increased up to the full power of the press, a second quality is produced. The pulp after this is taken out, mixed with hot water and again pressed to obtain the third quality. The oil from the mill runs into a receptacle below. Another method is to place the beans in a stone roller mill. This consists of two large stones connected by a spindle, which are revolved by horse power in a hollow round stone, in which the beans are placed. These stone mills hold about two hundredweight, and this quantity is crushed every half hour. The oil is poured into filtering bags and the pure oil runs from the shelves on which the bags are placed through tubes into vessels placed to receive it. The yield of oil varies from 40% to 60%, but the average yield is usually 40%.

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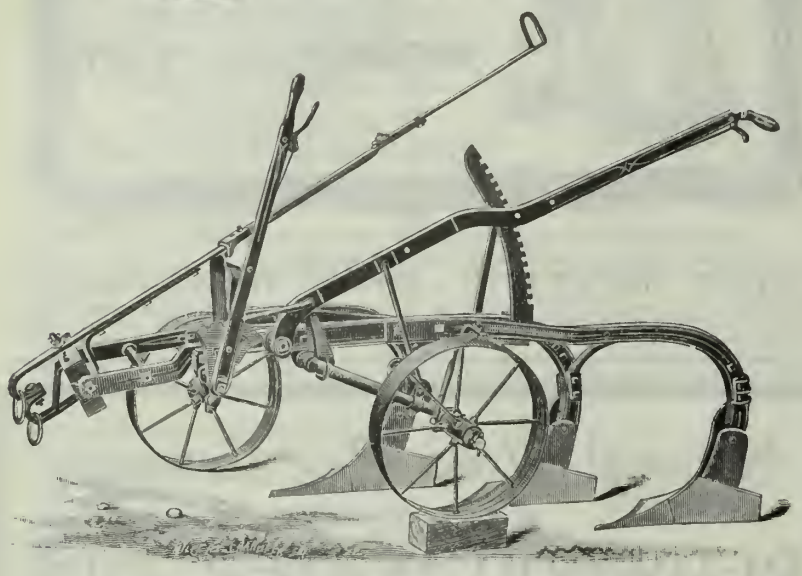
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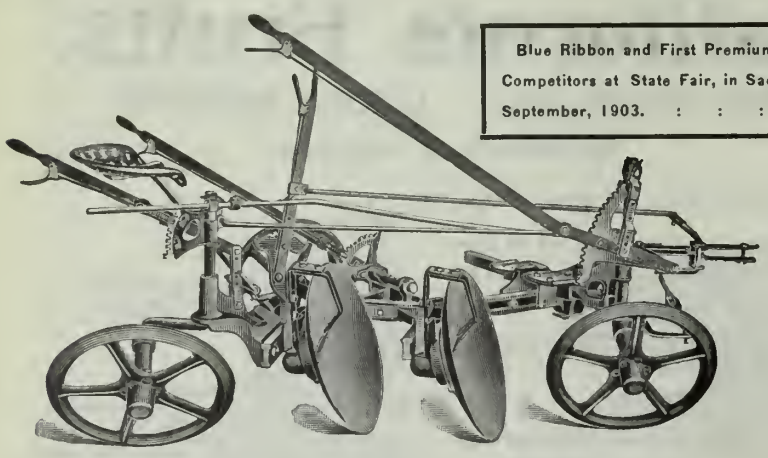
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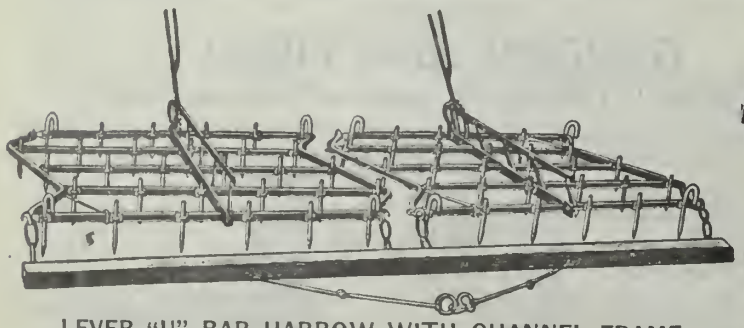


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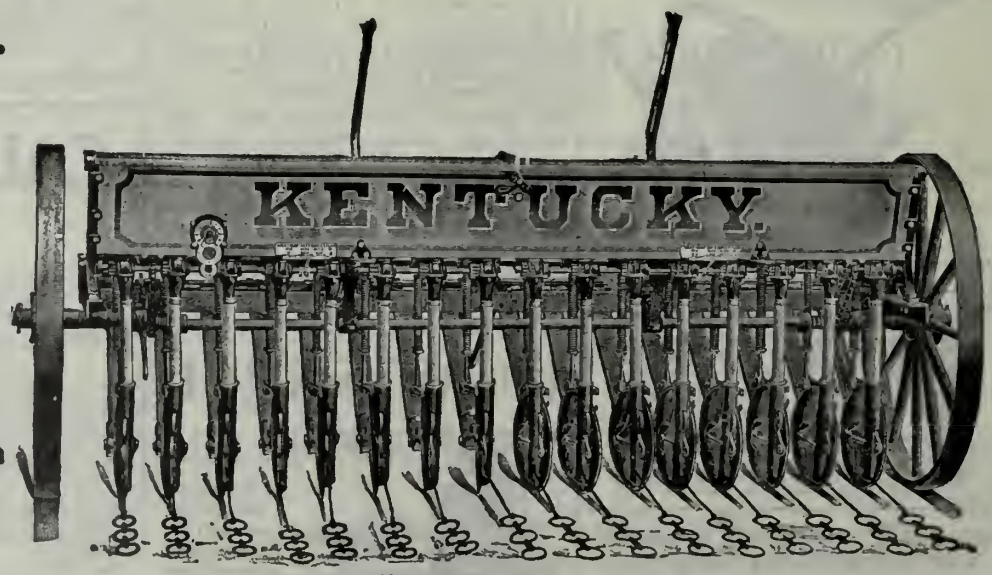
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Vol. LXVIII. No. 16. SAN FRANCISCO, SATURDAY, OCTOBER 15, 1904. THIRTY-FOURTH YEAR. Office, 330 Market St.

California Salt Industries.

Common salt is not usually regarded as an agricultural product, and yet we can argue to our own satisfaction that it ought to be, for is not an agricultural product one which comes up from below ground, remains for a certain time exposed to the air and sunshine and is finally gathered from the surface? Such a thing certainly salt is. But even those who may maintain that there is a fallacy in such reasoning must admit our second contention, which is that salt is so essential to the success of very important farm products that it is a matter of great agricultural concern, and that a State which has an ample supply of home-made salt is in that respect well circumstanced for agriculture. Such a State California is, and the future of California depends in some ways upon a larger use of this important natural resource.

According to a recent volume on salt by Dr. G. E. Bailey, California stands sixth in the list of salt producing States of the Union, and he points out the fact that in this State the bright sunshine and dry air give our manufacturers of salt a decided advantage over those at the East. Here one does not find the open pans, vacuum pans, kettles and grainers, as solar heat is almost exclusively relied upon. In one county only is artificial heat used for refining salt for table and dairy use. The main supply of salt for manufacture is the water of San Francisco bay. The history of gathering salt dates back to 1848 when the solar salt began to be taken from the natural reservoirs around the bay, and the chief location was in the vicinity of Alvarado and Mount Eden in Alameda county. In this same district there is to-day an elaborate system of dykes with gates by which large ponds are filled at high tide, the filling taking place about once a month. Some of the huge ponds have board floors. As evaporation progresses the water is drawn from one vat to another until it is sufficiently concentrated for the salt to crystallize out. The salt is then secured and put in huge glistening piles which can be seen for miles across the Alameda valley, the piles taking naturally a constant pyramidal form. The product of salt in Alameda county in 1901 is estimated at a total of 144,450 tons, worth $324,136. One of our illustrations gives a good idea of the salt masses of the Alameda region. An interesting feature of the manufacture of salt on these bayside marshes is the large number of windmills employed in pumping the brine from one basin to another. These inexpensive devices are in evidence on every hand, lining the dikes, and working away day and night.



A Pyramid of Salt Ready for Market, Alvarado Marshes, Alameda County.



Evaporation of Salt on the Bay Shore in San Mateo County.



Salt Making in an Artificial Lagoon, Near Redondo Beach, Los Angeles County.



Salt Making on Dry Lake Near Oceanside, San Diego County; the Brine Pumped From Wells.

Across the bay lies San Mateo county, which also has an important salt industry, and the picture taken there shows the evaporating checks and the windmill used to take the water from one to another as it becomes concentrated. The buildings used for storage and other requirements of the business are also shown.

At Redondo beach, in Los Angeles county, there was formerly a large salt establishment equipped with considerable machinery, but there were mishaps about it, and recently there has been only small scale work by solar evaporation. The plant is interesting, because a lake was formed by the building of a sandspit between the mainland and the ocean.

Lower down the coast, at coast points in San Diego county, salt making is pursued on a small scale, the brine being pumped from a number of wells arranged so that all can be operated by a single suction, and therefore all are pumped at once. The vats were laid out and leveed with plow and scraper so that one can discharge water into another very much as water is passed from check to check in irrigation.

These are only a few of the salt works of California. The great interior salt districts are rich and it is confidently declared by Dr. Bailey in his treatise that no State has larger reserves of salt to draw upon in the future than has California..

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The Week.

The rains have come again and gone again, leaving a lot more water in the soil, assuring the continuous growth of new grass and opening well the long season for plowing and sowing, digging and planting. It seems assured now that moisture will meet moisture well through the fall and winter, and this always means a year of great produce and of busy trade in farm implements and machinery and supplies of all the various kinds used in our many lines of husbandry. This general assurance of great things to come must console many for the losses which the exceptionally heavy early rains have occasioned. More of the late fruits have been injured, many beans have been stained and the sugar beet harvest has been interfered with. Other incidental losses have also been experienced, but in a large way it will be worth an incalculable amount to be assured of an old-fashioned wet winter, especially in parts of the State where there has been a succession of short years and something like an arrest of development and progress. To start again on a better cycle of years will be encouraging to many who have been brave and patient so long.

Great things are expected in the way of irrigation progress during next year, and the Legislature is to be besieged for favors of various kinds from definitions to appropriations. The convention at Modesto, which will open on October 18, as fully described in our last issue, will no doubt cut out something for the Legislature to do. We cannot, however, help indulging in reminiscence which teaches that in previous years, whenever the irrigation ideas mounted to a high pitch at Sacramento, the rainfall took the same course, and it was hard to hold the attention of the lawmakers to irrigation plans when they were chiefly concerned with how to keep dry. This coming winter they will also have reclamation and river improvement, as well as irrigation, and probably submergence and drouth will pull each other through. There will be much to keep busy about anyhow.

Chicago wheat futures have been drooping again this week and, though rallying from time to time, close something below last week's figures. Spot wheat is, however, unchanged and firm as ever. There have been three charters for barley, ranging from 21s 3d to 22s 6d, and one for wheat at 22s. One ship has arrived under charter for either wheat or barley at the equivalent of 18s 9d to a direct port. There have been no grain clearances, though one steamer took 20,000 pounds of flour as a part of her merchandise cargo for Asia. Barley is firm and unchanged; oats are steady to firm, and corn (chiefly Eastern) is a little easier. Yellow mustard is scarce and high. Beans are strong and higher, and Limas at the south are much excited as it is held that much of the unthreshed part of the crop will be ruined. Millfeeds are unchanged, quiet and steady. The best hay is higher, but wet hay is weak. Meats are unchanged—fine beef and hogs being in good request. Butter and eggs are about alike, choice fresh being held high while the trade runs briskly on cold storage. Fancy new cheese is firm and in light supply. Nice young friers and broilers and fat turkeys are doing well, and young pigeons are higher. Potatoes have a better tone for the best, and onions are higher. The fruit supplies are reduced. Grapes and berries have been hurt and held back by the wet. Fine apples are still firm. Late pears are competing with Bartletts out of storage. Oranges and lemons are very quiet, and limes are lower. New pomelos are in from Oroville, but are held high and go slow. Dried fruit is in good shape, and heavy deliveries of prunes are helping a little. One steamer took over half a million pounds for Germany, and another took 35,000 pounds. Large-sized prunes are higher, and there begins to be a little tone in the market. Asking rates for raisins are advanced. Choice almonds are firm, others slow. The walnut crop is said to be largely contracted, and the gossips are talking about rejections because of rain stains, etc. There is little doing in honey and buyers seem averse. Hops are stiff and advanced—31½c being reported as bid in Oregon. There is a good demand for wool wherever there is wool to buy.

The article on another page about this year's agriculture in England is interesting, because the conditions described are affecting values in all supply countries, and will continue to do so until another crop is gathered in. The potato situation is interesting, not so much because of the high prices which are being paid for new kinds of potatoes, but because the fact shows that the old kinds are becoming very bad and untrustworthy. According to our memory, the potatoes relied upon run out about once in each generation of mankind, and recourse to plant breeding renews the stock. It is a hopeful sign of the time that plant breeding is now recognized as the way in which all things which run out can be removed, nor is such restoration of strength in a stock confined to plants. The history of mankind shows similar phenomena. It is, however, rather strange that men generally have been so slow to recognize the importance of producing new and better varieties of plants. Such effort has been restricted to a few in each generation. Now, however, the world is after it with a rush and wonders may expected all along the line.

It may be comforting to the few people who have been laboring so hard during the last few years to re-establish the glory of the California State Fairs to know that other such efforts have hardly yielded more. We read in an Eastern exchange that the Royal Agricultural Society of England is having a hard time with its annual shows. Two years ago this show was located at Royal Park, near London. Since that time the deficit each year has amounted to about $45,000. The location seems to be unfortunate. It is not convenient to London, nor is it easily reached from outside the city. Then, too, continues the writer, some think a permanent location not desirable, the show having been itinerant heretofore. One thing is certrin, the Royal Society has a difficult problem to solve. There are some who claim that the California State Fair should be itinerant, but the Orange Judd Farmer is authority for the statement that in the United States none of the State fairs were very satisfactory until permanently located, with substantial buildings, large and attractive grounds, and other buildings which come with the knowledge that the State Fair will be held in the same place year after year. There is a good deal in the question. Probably the next Legislature will have to thresh it out.

QUERIES AND REPLIES.

Walnut Blight—French Varieties.

To the Editor: I am sending a few walnuts from an orchard on sloping adobe land near San Luis Obispo. You will note the apparent decay at the end of the nut. Is that the walnut blight? Can the disease be detected in young trees, particularly nursery stock? It is locally the opinion that grafted trees of French varieties from northern nurseries, while early bearers are not prolific bearers and therefore not a good tree from a commercial standpoint. Is that true? Would you advise fall planting of walnuts as well as deciduous fruits?—Enquirer, San Francisco.

The walnut blight is distributed all over the State wherever walnuts are grown and no satisfactory method of circumventing it is yet known. The specimens which you send show the disease far advanced. Sometimes it only manifests itself on the exterior by a small black spot, generally at the blossom end, while the interior of the nut shows complete destruction. In other cases it involves the whole exterior and interior as in the specimens which you send. Such nuts usually drop in advance of the main crop. The disease can sometimes be detected in nursery stock by the blackening of the bark. We are not sure that can always be detected.

The French walnuts grafted come into bearing much sooner than the seedling soft shells. Our observation is that they bear very freely according to their size and this early bearing naturally checks the wood growth so that the trees are on the whole smaller than the seedlings. This is also the case with the budded oranges as compared with the seedling oranges. We do not know of any one who has had the two kinds of trees under the same conditions which would be necessary in order to make close comparison of the bearing of the two. Grafted trees can be planted nearer together than seedling; consequently, the acre product might make a better comparison than the comparison of single trees. Early planting is as desirable with the walnut as with deciduous fruits. It is demonstrated by practice, and especially in places where the rainfall is apt to be short and the rainy season to close early in the spring, that it is desirable that the tree should have opportunity to establish itself in its new location early in the season. If the place is not frosty and the ground is well wet down we should transplant early in the winter, unless you are likely to have cold, wet rains which will fill the ground in January; if so, February planting would probably be better. The planting of this tree is governed by the same general conditions of soil, moisture, etc., as are other fruit trees.

Cling Peaches—Failing Apricots.

To the Editor:—Will you let me know the bearing qualities of Phillips and Tuscan cling peaches? Also, suggest a good and regular bearing variety of cling, ripening between those two, and which would be in demand for canning? I have 500 almond trees, eight years old, that I wish to put those peaches on. Which would you advise—grafting or budding?

I have some apricot trees that put forth small and scrubby growth of wood, the leaves on which are small and numerous, splashed with light patches of greenish yellow, and sometimes have small red clots on upper side of the leaf. They are on apricot root, eight years old, in sandy soil, unirrigated. Healthy trees bear heavy crops of extra fine fruit with a high percentage of sugar. Do you think this could be the effect of root knot?—Grower, Oakley.

The bearing of the Tuskena (or Tuscan Cling) and Phillips Cling is usually good. The Tuskena is very early and Phillips' Cling quite late. Between the two you can ripen Seller's Golden Cling and Runyon's Orange Cling, both of which are satisfactory canning and drying varieties. Grafting on the almond stems is a little more difficult than grafting apples and pears, and particular attention has to be paid in setting the graft and waxing well; but when this is done very good results are attained. Budding is, however, an easier proposition, cutting back the trees and inducing a growth of new shoots to be budded in July and August. You have, however, a chance to do both with the least loss of time. Cutting back and grafting next spring and putting in buds on suckers, where the grafts do not take, gives you two chances to transform the trees in the summer growing season.

The behavior of your apricot trees is probably due, not to disease, but to the serious lack of moisture

during the summer time. The apricot root is not so hardy against drouth as the almond. The peach is, in fact, rather better for light soils inclined to be dry than the apricot is, and yet one can not grow satisfactory peaches without enough moisture in the summer time. Those trees which are doing well are probably in places where there is a little more moisture available from some source or other. Of course, trees are brought into the unfortunate condition which you describe by the occurrence of root knot, but in that case the knot must be attached to the main root and pretty largely developed in order to check the growth of the tree. The probability is, as stated before, that your difficulty arises from the soil, which becomes dry too early in the season.

In the Mountain View Foothills.

To the Editor:—I have twelve acres in the lower foothills where I am told there is little frost. The soil is fine—rather heavy, but not adobe. I have four acres to be cropped and can irrigate half of it, though it is too uneven for flooding. Are there crops of marketable vegetables or forage that can be safely planted now and be ready to be taken off early enough in the spring to allow planting something else for cows or poultry? Will it pay to plant alfalfa where it cannot be irrigated and in the orchard? Will cabbage, cauliflower or beets do now, and how soon would they be ready for use? Can potatoes be planted now and be out of the way in time to sow cowpeas or Kafir corn for forage? Will the cowpea or velvet bean do well here in the dry summers?—N. S. C., Mountain View.

It is impossible in a paragraph to discuss fully all the points which you advance. Concerning what can be done in vegetable growing in succession of crops and planting at different seasons, a full account is given in our book on California vegetables, which is especially written for beginners in that branch. If you have, as you say, little frost and can command water for irrigation of your vegetable plot, you can grow many things in succession and thus have something to gather all through the year, and by proper arrangement for distribution you can carry your irrigating water over the uneven ground very successfully. It is possible to plant now very many hardy things, as the book describes, and you will have certain vegetables, like lettuce, radishes, top onions, young beets, etc., ready for gathering before Christmas and all through the months following. Larger beets for boiling or for stock will continue to grow and be ready for gathering in the spring. The same is true of parsnips and some other roots. Cabbage makes good winter growth, unless you have too much frost. It is not usually profitable on upland to try alfalfa without irrigation, nor is it desirable to plant it in an unirrigated orchard, because it will take up moisture which should be saved for the trees. Cowpeas and velvet beans cannot be grown in the winter, because the temperature is a little too low, and they do not succeed in the summer unless irrigated. They do not enjoy dry heat. Kafir corn, on the other hand, does make a good growth in the dry season.

About Santa Rosa Valley.

To the Editor:—Can I raise pecan trees from Georgia, grapes, loganberries and other berries, pears, apples, plums, oranges, apricots, cherries, etc., in the section between Santa Rosa and Petaluma, nearer Santa Rosa? Will vegetables do well in that soil?—Enquirer, New York.

In the region about Santa Rosa there are lands and locations in which all the fruits and vegetables which you mention can be successfully grown. There is, however, between Petaluma and Santa Rosa a considerable area of soil which is almost too heavy for the best results with fruits and vegetables and a considerable area, also, which is too wet during the rainy season for the success of some of these plants. For such cultures you need a deep loam, retentive enough of moisture and yet not too retentive so as to cause the ground to become water-logged and cold. There is plenty of such land in the vicinity of Santa Rosa. The choice of land in California must be made, however, with particular reference to the local soil, for the soil changes in character sharply within short distances. For the culture of most kinds of berries and the summer growth of vegetables you will need irrigation, even in that county where the rainfall is considerable.

The success of pecan trees has not yet been demonstrated in the coast district of California. They do better in the interior valley, where the seasons are more marked and early frosts induce the tree to stop growing and mature its product.

Irrigation by Imitation of Rainfall.

To the Editor:—I see accounts of an Eastern method of irrigation which has adjustable pipes across the field so that fine jets of water can be thrown out to fall as spray all over the plants and the ground surface. Is that a good way to irrigate?—New Comer, Stanislaus county.

There is no system of shooting water into the air in imitation of rainfall, which is favored in irrigated regions, except for lawn springling. In the growing of irrigated crops we do not wish to wet the surface of the ground, nor the plant itself, but rather to introduce the water into the soil where it will be available by the roots. The dry earth surface should be loose and not condensed as by rainfall, and the foliage should not be rendered subject to the fungus diseases, which are apt to be there, by frequent moistening of the leaves. There is an entirely different conception of the use of water in the arid region and in the humid region; the latter seeming to be always striving for an artificial rainfall, while the former condemns this system as wasteful of water which is sprayed into a thirsty atmosphere, resulting in rapid evaporation and loss of moisture. We find that our soil requires frequent stirring, and the cultivation which prepares to run the water in small ditches alongside the plants and afterwards breaks up the compact condition owing to the contact of the water, is promotive of satisfactory growth.

Stable Manure as a Cure for Alkali.

To the Editor:—Will plenty of stable manure help in cases of alkali? Will it warm up the soil?—Reader, Salinas valley.

Different plants have different degrees of resistance, but they are all destroyed when the alkali reaches a certain strength. The use of manure is sometimes quite effective against destruction by alkali, because the manure renders the upper soil more loose and this checks evaporation from the surface and consequently reduces the accumulation of alkali which is left upon the surface by the evaporated moisture. Manure, then, is not a cure for alkali, but is sometimes quite effective in preventing its concentration and keeping it distributed through such an amount of soil that at no single place does it become strong enough to injure the plant. Plenty of stable manure has the effect of warming the soil—sometimes by the heat of its own decomposition, but generally by preventing the accumulation of water and admitting more freely the warm air of the springtime, but you must be on your guard, because the same condition which renders the soil warm early in the season may cause it to dry out sooner in the summer and thus render the use of irrigation water more pressing.

Treatment of Peach Pits.

To the Editor:—Will you please give process and formula for bluestoning peach pits to prevent black knot on seedling stock?—N. W. Miller, Orosi.

We do not know that you will secure the ends you desire in that way; on the other hand, we think you will not, because it would be strange to find the germ of a root disease attached to the pit of the peach, and the only effect bluestoning can have is to kill germs adhering to the surface of the pit. You can safely do that by dissolving bluestone in cold water (letting the water dissolve as it will), and then plunge the pits into the solution a few minutes, or until all the surface of the pits becomes wet. Do the thing exactly as you bluestone wheat.

Pickling Olives.

To the Editor:—Kindly print in the columns of your paper a recipe for pickling olives.—Subscriber, Clay.

An account may be found on another page. The olive handler should know, however, that the fruit cannot be handled so easily as are common kitchen pickles, and should expect to meet disappointments and to learn from experience.

Bermuda Grass Seed.

To the Editor:—Where can I get some first-class Bermuda grass seed? How much seed does it take to a quarter of an acre?—P. C. B., Lakeport.

Bermuda grass seed is quite apt to be infertile and disappointing. Our regular seedsmen can supply you the best there is available. It is easier to start with the roots than with seed. You can buy roots from most seedsmen, or if you can find any one who has the grass he will give you all he has if you will agree to take it away—unless he is growing it for levee protection or to make use of alkali land.

WEATHER AND CROPS.

Report of the U. S. Weather Service for Week Ending October 10, 1904.

Alexander McAdie, Forecast Official and Section Director.

Sacramento Valley.

Cloudy, unsettled weather prevailed during the week, with frequent rains. Grapes on the vines were greatly damaged by the rain, and in some cases completely ruined, as they will be unfit for wine or table uses. Beans and hay were also considerably damaged. The recent rains have been very beneficial to citrus orchards, which are now in excellent condition. Oranges are advancing rapidly and nearing maturity in some orchards. Green feed has made good growth and will soon be abundant. Plowing and seeding are in progress. A large acreage of grain and hay will be planted.

Coast and Bay Sections.

Fair, warm weather prevailed during the first of the week, followed by frequent showers and fairly heavy rain in the central and northern sections. The grape crop has been seriously damaged by rain and in some places the wineries have ceased receiving the grapes, owing to their bad condition. Tomatoes and hay were also considerably damaged. Walnuts in Sonoma county were somewhat injured by the recent hot weather, but there will be a fair crop. The soil is in good condition in all sections and plowing is in progress. Green feed is growing rapidly and in some places is sufficient for stock. Potato digging is progressing and corn is nearly ready for harvest.

San Joaquin Valley.

Cloudy and showery weather, with frequent thunderstorms, prevailed during the past week. A severe thunderstorm pas ed over the central portion of the valley on the night of the 5th and the morning of the 6th, causing much damage to the raisins, grapes and hay in the fields. At Fresno 2.38 inches fell in sixteen hours, causing great damage by flooding streets and cellars. Owing to the unfavorable weather, little or no progress has been made in curing raisins. Large shipments of potatoes continue from Stockton to southern California points. Green feed has made excellent growth. Stock are healthy and in good condition.

Southern California.

Warm, clear weather prevailed during the first of the week, with frequent light showers at the close. The El Cajon raisin crop is nearly all harvested and curing is progressing satisfactorily at the polls. Rain has caused very little damage to raisins this season and a heavy crop is probable. Bean harvesting has been retarded in some sections by the rain and some damage has resulted; thrashing has been resumed. Walnut harvest is progressing slowly, owing to unfavorable weather; the nuts are of good quality. Oranges have been improved by the rain; the fruit is of good size, but the yield will not be large. Irrigation water is plentiful in most places.

Eureka Summary.—Continued warm weather, with some rain. The grass is much benefited, but stacked grain and peas are somewhat damaged. Potatoes are turning out better than expected. Fall plowing is making slow progress.

Los Angeles Summary.—Rain at the close of the week damaged beans still in the field unthrashed, and some hay and grapes. Rain benefited pastures and field crops.

Rainfall and Temperature.

The following data for the week ending 5 A. M. Wednesday, October 12, 1904, are from official sources and are furnished by the United States Weather Bureau for the Pacific Rural Press:

California Stations.	Total Rainfall for the Week	Total Seasonal Rainfall to Date	Total Seasonal Rainfall Last Year to Same Date	Average Seasonal Rainfall to Date	Maximum Temperature for the week	Minimum Temperature for the week
Eureka	1.17	3.69	3.25	2.82	68	44
Red Bluff	2.92	8.14	.46	1.27	80	48
Sacramento	1.72	5.38	.12	.83	78	52
San Francisco	2.04	7.19	.17	.93	70	56
Fresno	3.18	4.96	.00	.52	84	52
Independence	.07	.38	.42	.40	76	42
San Luis Obispo	.98	4.44	.02	1.14	76	52
Los Angeles	.68	1.12	.43	.46	76	56
San Diego	.10	.16	.07	.33	72	54
Yuma	T	.81	.62	.79	96	54

A carload of fruit, as used in our current statistics, is becoming each year a less definite quantity. The old carload of ten tons is not at present existing. Either our historic tables of fruit movements should be reduced to tons alone, and carload equivalents cast out, or worked over to some equivalence of the carloads we do have. We are inclined to think that the ton unit should alone be used. Surely, some change should be made. We are reminded of this fact by the announcement from San Jose that, beginning January 1, 1905, the minimum weight for dried and canned fruits in carload lots over the transcontinental associated lines will be advanced to 40,000 pounds. The present minimum is 30,000 pounds.

HORTICULTURE.

Olive Pickling on a Small Scale.

Although we have published many recipes and processes for olive pickling, the following account of the olive tree and the use of the fruit on a small scale from an Arizona point of view may be interesting. Mr. W. W. Skinner of the Arizona Experiment Station has prepared the following account:

The Olive in Arizona.—The growing of olives in Arizona has passed the experimental stage. It has been demonstrated that the olive is a valuable tree for the semi-arid conditions existing in Arizona, especially in the southern section. Being of a drouth resisting nature, which is particularly true of some varieties, it can withstand much abuse and neglect, yet, like most drouth resisting plants, readily and splendidly responds to good treatment, abundance of water and culture. While some varieties are characterized by low-growing, spreading, bush-like forms, yet a few, especially the Mission, for instance, are of considerable importance as shade trees for lawns and gardens. Some trees of the Mission variety on the University Campus, which are now nine years old, are about 30 inches in circumference and 18 to 20 feet high and afford quite a respectable shade. These trees, too, have not had the best of care, sometimes unavoidably suffering from a lack of water.

The olive is an exceedingly valuable article of human food; both the fruit, when properly pickled, and the oil which may be expressed from the fruit being articles of commerce highly prized among civilized people since very ancient times. Its value as an evergreen lawn tree, the value of its fruit and its drouth-resisting character have led many people in Arizona to add a few trees to their lawns, and from these people the station has received requests for information concerning the preparation of the fruit for use as food. It was to supply this information that the writer the past season undertook some experiments for the purpose of testing a method of pickling olives that might be successfully applied in a small way by persons, as above stated, who have but a few trees and but a few gallons of fruit to deal with. The prime requisites of such a method are that it should require a minimum of time and should utilize such handy utensils and materials as are usually to be found in every home.

Varieties. — Experiments were conducted with several varieties of olives, both ripe and green, and several methods of treatment. All of the experiments were interesting, yet in a paper of this character it is deemed wise to give only the conclusions arrived at by our work, rather than a detailed statement which may be given in a subsequent publication. The two varieties which yielded the best products were the Mission and Manzanillo. Both bear very large fruit. The Mission holds its color well while being pickled, and, with reasonable care in the extracting process, yields a product which is firm and of good flavor. The Manzanillo is superior to the Mission in flavor, but the fruit is of a finer texture and is prone to soften during treatment, nor is the color of the finished product so good as the Mission.

The Mission seems to be very well adapted for lawn and garden planting in Arizona; for while it is with us a rather shy bearer, yet its large fruit, vigorous growth and the unusually large size frequently attained by the tree make it very desirable for such purposes.

Extraction.—The fruit of the olive, either green or ripe, has a disagreeable, bitter taste, which is due to the presence of a vegetable principle known as "olivil," and, before the fruit can become an acceptable article of food, the bitter principle must be removed. The old method practiced prior to the past century, and which is still used to some extent in southern Italy, is to place the fruit in bags in a stream of running water. By a process of leaching, the bitter substance is thus removed and the fruit is ready for the brine. This method, in addition to requiring from three to six weeks for the leaching, requires exceedingly pure water for the processes, and even then the olives are very liable to be ruined by mould and bacteria. It is, therefore, quite impracticable in this country. The method now generally used is to neutralize the olivil with weak soda or potash solution, afterwards removing the excess of alkali with pure water. This is the treatment now generally used on a large scale for processing olives. The soda and potash alkalies which are used are obtainable as commercial articles under the name of soda lye and potash lye. Of the several methods tried, using different amounts of both potash and soda lye, the one which gave uniformly best results was a combination of soda lye, lime and salt. The object of the soda, as before stated, is to neutralize the bitter principle; the lime fixes the color, as the use of soda alone causes the fruit to turn yellow, while the salt hardens the fruit, which has a tendency to soften when treated with lye, especially if the treatment is carried too far.

The Process.—The method of procedure is as follows: The fruit, either green or ripe, is carefully picked into pails about one-third full of water, in order to prevent bruising. This is essential, as bruised fruit will swell during the lye process and will spoil. The fruit should also be sorted, as it is desirable to have each lot of fruit of nearly uniform size and condition of ripeness, for the lye attacks the ripe fruit more rapidly than the green; consequently, the ripe and small fruit would be finished while the larger or green fruit would still be bitter. The fruit is then placed in stone jars, observing the same precautions in regard to bruising. Wooden kegs and pails may be used, but they are much more difficult to keep clean, and, when once impregnated with the mould which causes so much trouble, are very difficult to sterilize. The water should be drained off and a solution prepared as follows poured over the fruit: To each one gallon of water add two ounces of soda lye, one ounce of lime and one ounce of common salt. Stir thoroughly and let stand for one hour, when it is ready for use. The water for making this solution should be boiled and cooled, thus retarding the growth of the mould which is likely to give trouble. The solution should cover the fruit about 2 inches, and, should any of the fruit float, it is necessary to cover with a board and weight. The time of the lye treatment varies from three to seven days, according to the variety, size and ripeness of the fruit. The solution should be examined daily, and should the slick, soapy feeling peculiar to lye disappear, it indicates that the solution is exhausted. The old solution should, therefore, be poured off and the new solution added. It should also be changed at once should any scum or mould appear. The fruit should be frequently examined, always sampling the largest olives by cutting away a portion with a sharp knife. The progress of the lye towards the interior of the fruit is plainly marked by a distinct, dark ring. When the ring has reached almost, but not quite, to the pit, it is time to remove the lye and commence the washing. The lye should be poured off and water added. Fresh water should be added morning and night. The wash water should also, if possible, be boiled, for at this stage the olives are an excellent host for the development of mould. The same precautions as above should be observed to keep the olives under water, and the vessels during extraction, washing and salting should be kept closely covered. Depending upon the condition of the fruit, the washing requires from four to seven days to remove all traces of the alkali. This can be determined largely by the taste, for as long as any lye remains in the fruit it has a peculiar, hot taste. After most of the lye has been removed, should the olives still be bitter, they may again be treated with lye solution. If the lye is allowed to act too long, however, the flavor is injured and the fruit quickly softens and spoils. The treatment should be carried just far enough to neutralize all of the bitter principle and no farther. Experience and frequent testing are the only methods of determining this. To be absolutely sure that all lye is removed, which is necessary, the fruit should be tested with small bits of red litimus paper. To make the test, a half dozen of the largest olives are broken open and the paper pressed against the pits. The paper will turn blue if only a trace of the lye remains, and, should such be the case, the washing should be continued until the paper gives no reaction.

The Brine.—When free from lye the olives are then ready for salting. A brine should be made containing two ounces of common salt to the gallon of water. The solution should be thoroughly boiled and cooled and poured over the olives. The next day the two-ounce solution should be removed and a solution containing four ounces of salt should be used. If the stronger solution is used to begin with, the olives will shrivel. The fruit should next be treated with an eight-ounce brine, and, if intended to keep for some time, finally with a brine containing fourteen ounces of salt to the gallon. A fourteen-ounce brine, however, makes the olives too salty to be used without a slight soaking.

Canned Olives.—A better method of keeping the finished products is to process the olives after adding the eight-ounce brine. For this purpose I used Mason fruit jars and a large tin washboiler, thoroughly cleaned. The jars were filled with olives and brine, rubbers and covers lightly screwed on and the jars placed in water heated to 175° Fahrenheit for thirty minutes. Jars were then removed and covers quickly tightened. By this process the flavor of the olive is not injured, and, if properly done, the fruit will keep at least several months without deteriorating.

FRUIT PRESERVATION.

The New York Dried Apple Law.

The Western New York Evaporated Apple Dealers' Association has issued a statement which is interesting to California apple growers and driers, as explaining what Eastern standards are in the preparation of dried apples.

The New York evaporated apple bill constitutes a new article of the agricultural law. Two new sections are hereby added to the agricultural law, to be known as Article 13, and to read as follows:

Article 13, Section 185. No person shall sell, expose or offer for sale as and for evaporated apples any evaporated apples intended to be used as food, or for consumption by any person, other than standard evaporated apples.

Sec. 186. Evaporated apples containing not more than twenty-seven per centum water or fluids as determined by drying for four hours at the temperature of boiling water shall be considered standard evaporated apples for the purpose of this Act.

The Effect of the Law.—The above is the law passed by the Legislature and signed by the Governor of New York State. What will be its effect on the apple industry of the State? At a glance one will see that it is almost wholly in the interest of the producers of evaporated apples. Some will, unless restrained by law, "dry apples by moonlight and cure them in a water tank."

Now this is only the few. The majority make apples dry enough, but the vicious few defeat the honesty of the many, and thus keep the industry in bad repute.

It will take the strong hand of the law to compel dealers to refrain from buying and handling apples that will ferment and become unwholesome. This law will serve a good purpose if it makes the dealers honest and just in accepting apples of proper dryness, and thus protect the honest evaporators, who are willing and anxious to make standard evaporated apples.

Conclusions.—The law governing the manufacture of evaporated apples makes it important to consider some practical questions. It has been definitely determined that a bushel, or 50 pounds, of sound, green paring apples will make about 6 to 6¾ pounds of standard evaporated apples. This is a conservative estimate, and manufacturers should take this into consideration when they purchase apples. Knowing approximately the number of pounds that can be produced from a bushel, and the market price, they are in a position to know what prices should control in purchasing apples in the orchards. It is safe to estimate that six to seven pounds of standard evaporated apples can be made from a bushel of average sound winter fruit.

THE VETERINARIAN.

Tuberculosis From the Breeder's Standpoint.

By Dr. R. A. Archibald, at the California Live Stock Breeders' Association.

In taking up this momentous question it is not my intention to tell you anything new or anything that you do not already know, as of late years stock papers and scientific journals have teemed with literature dealing with tuberculosis in its many phases. It is rather my intention to bring the subject matter to your notice in a general way, with a view of starting a conservative movement towards the eradication of this disease from the breeding herds of the State, and, after it is once stamped out, to provide adequate safeguards against its subsequent introduction.

I believe this State is destined to become the greatest in the Union, as far as breeding interests are concerned, and it is this fact that has caused me to reach the conclusion that the subject of tuberculosis should receive attention in the early future.

The Old Scare.—I am fully aware of the fact that in taking this matter up there is grave danger of being accused of trying to resurrect the ridiculous crusade that was started in this State and other States some few years ago against the tuberculosis dairy cow, a crusade resulting in a great deal of harm by reason of the fact that it created a bitter sentiment against any measure for the stamping out of the disease. In fact, so bitter has this sentiment become that the term "tuberculosis" bears the same relation to some stock owners as a red rag to a bull. The worst feature of this campaign against tuberculosis was that the indiscriminate inspection and application of the tuberculin test, accompanied by the total destruction of diseased animals, was done in such a radical manner that the stockman could see nothing as the result but the complete annihilation of his business interests. The consequence was that no matter how forcibly the fact that he was the owner of diseased animals was presented to him, his prejudice compelled him to fight the general movement. There can be no question but that the action of the health authorities during this campaign was prompted by honest motives, and I believe and wish it to be understood that the methods employed to carry on the work were used with honest intentions. This crusade, on the other hand, did certainly do some good in demonstrating the fact that among the breeding and dairy herds of the State there exists a large percentage of diseased animals—a percentage that will range from 5% up to 75%, depending on the condition and environments under which such stock is maintained.

Action Necessary.—The point I wish more particularly to bring out is the fact that tuberculosis is on the increase in this State, and, if some action is not taken to prevent this increase, future prospects, as far as the prevalence of the disease is concerned,

must be looked upon with alarm. I also wish to emphasize the fact that, when the prevalence of tuberculosis is taken into consideration, Texas fever, anthrax and all other contagious and infectious diseases fade into insignificance.

It is human nature to put off the consideration of unpleasant and painful subjects from day to day; but, gentlemen, I believe that this matter should be put off no longer. The time is ripe for a movement toward the control and eradication of this plague, and I believe that this, above all other organizations, is the proper body to take the initiative, for the reason that, as breeders, you are the mainstay of the stock industry, and any action towards the stamping out of the disease in question should commence at the foundation—that is to say, among the herds from which sires and dams for the improvement of the herds are drawn.

How a movement of this kind shall be brought about it is perhaps too soon to say; but I do know that whatever is done should be done in a conservative manner and along lines that are satisfactory to the representative breeders and stock owners of the country, as well as the sanitary authorities of the State. Unfortunately for the success of the crusade made a few years ago, it was a one-sided proposition. The health authorities went ahead with the work of exterminating without consulting with the stock owners or dairymen. This I hold to be wrong, as no movement of the kind can be successful without the co-operation of those whose interests are involved.

Who Shall Act?—Leaving out the question of the possibility of the disease being transmitted to the human being by a diseased animal, there still remains the important problem as regard its effect upon the future prospects of the stock industry in this country. There is no question but what the cattle industry suffers greatly on account of the extensive prevalence of the disease, and of course the injury and monetary losses are in direct ratio to the number of animals affected.

It is natural, and the history of tuberculosis shows that it will spread at a constantly increasing rate as the centers of infection multiply, and it will continue to do so unless active measures are taken to check it. Unless this animal plague in our herds is to be permitted to develop until the anuual losses occasioned by it are increased many fold aud the conditions that now exist in some parts of Europe and the East become common, something must be done.

As to who shall undertake the necessary action I think it is within the province of this body to decide. You make strenuous efforts towards the eradication of Texas fever, the removal of quarantine restrictions, the development of State and county fairs, etc., but all these and other objects you are organized to accomplish are really of minor importance when we stop to realize that nearly every breeding and dairy herd in the State contains diseased animals. And when we further realize that the disease is a contagious and preventable one, the necessity for immediate action is made clear.

Results of Delay.—Take, for instance, the experience of Denmark, Norway and other European countries that are to a great extent dependent upon the dairy industry for maintenance. These nations kept putting off the consideration of the eradication of tuberculosis until it was demonstrated that about 25% of their dairy animals were affected with the disease. It looked like a national calamity, and from a financial standpoint this condition did constitute a national calamity, and it became necessary to adopt stringent measures to control the disease. As the result of this activity, I believe it is only a question of a few years until these countries will be entirely free from it.

While I do not think for a moment that the stockmen of this State are not sufficiently intelligent to prevent similar conditions as regards the prevalence of tuberculosis in this country, yet I do believe that we are rapidly drifting in that direction and will continue to drift unless some action is taken.

Even, as I intimated before, if it is shown later on that the disease is not identical with tuberculosis in the human family, there is still no reason why immediate action should not be taken to eradicate the disease from among the animals of this State. The disease is to be found to the greatest extent among highly-bred herds, the source from which sires and dams are obtained, and, unless our pure-bred herds are cleansed of the disease, the process of spreading it will continue; so, regardless of the question of danger to human life, it is highly to the best interests of the stockman that his herd be cleaned up.

I am fully convinced of the practical possibility of eradicating tuberculosis from the breeding herds of the State and the maintenance of sound herds, and my earnest hope and plea is that you gentlemen will to-day commence to take such action in the matter as will put into operation some intelligent plan for ridding your herds of a disease which is so destructive in its effects.

Individual Action.—Now that we possess a reliable and safe method of determining whether or not an animal is affected with tuberculosis, it should be the desire of every breeder to commence at once in a judicious and systematic manner to eliminate from his herd, with the least possible loss, every tuberculous animal. At the same time it might be necessary and proper to direct special attention to the preservation of certain strains of well known productive blood, which has taken years of intelligent thought and careful study by progressive minds to bring certain breeds up to the present high standard of perfection.

Tuberculin.—Objections to the use of tuberculin for the purpose of detecting tuberculosis are becoming rarer and rarer. It was natural that there should have been much objection to its use in the beginning, when its method of manufacture and properties were unknown, and more especially when certain attempts were made to use it against the wishes and belief of the owners of cattle. Reference to the records of thousands of cattle that have been tested with tuberculin demonstrate the fact that there is certainly no ground to fear that it will injure healthy animals. It is, of course, not infallible. In fact, there is nothing in the science of medicine that is infallible, and all that is claimed for tuberculin is that it is exceedingly reliable and gives far more accurate results than can be obtained without. Where an animal reacts in a characteristic manner to tuberculin, that animal is almost certain to be diseased.

The only real objection that can be made to tuberculin as a diagnostic agent is that it is too fine or too searching; but, if the disease is to be eradicated in a herd, it is not only important that animals who are actually spreading the disease should be removed from contact with healthy animals, but also that the animals should be removed that are sure to become infective in the near future. It is certainly of the highest importance that tubercular cattle be detected before they have reached the infecting stage. If an animal has not reached the infecting stage it can be removed from the herd at slight expense; but, if allowed to remain, it not only becomes necessary to remove that individual, but also others that have become infected from it. It is true that most of the infectious material that is distributed by cattle comes from animals visibly diseased; but it must not be forgotten that much tuberculous matter also comes from animals not visibly affected.

Of course, the difficult question is what to do about it? What steps to take and how to take them, in order that the spread of tuberculosis among pure-bred stock may be lessened and controlled, without at the same time causing you gentleman great financial loss and endangering the cattle interests of the State. With a view of solving this problem, I have submitted a resolution to the committee on resolutions upou which I trust favorable action will be taken by this organization.

THE STOCK YARD.

Feeding Beef Cattle and Advantage of Chopped Hay.

By Hon. L. M Foulke of Gazelle at the California Breeders' Convention, Sacramento.

There are four essential points in connection with the feeding of beef cattle to insure the best possible results. First—To not only select well-bred, graded, smooth steers in thriving condition when put on feed, but such steers, wherever and whenever possible, that have been well cared for and well fed as calves and yearlings. An animal that has been stunted as a calf and yearling will not feed well no matter how well bred. All cattle have a vast number of cellular cavities (fascells) distributed all through the flesh which should be kept open and filled, acting as a reserve force by generous feeding and good care when calves and yearlings, for if during that period of the animal's life these cells become closed from lack of nutrition the cattle will be more or less stunted, and when put on feed will not respond so well by gain in weight nor make as good beef as those which have been more generously cared for as calves and yearlings. We hear much said about scrub cattle; very generally they are the result of short feed to the calves and yearlings which is neither in accordance with true economy or common humanity. It is the scrub man that makes the scrub steer.

Second—Steers if fed outdoors, which is the general custom on this coast, should be provided with as dry corrals as possible, and especially as dry a place as possible to lie down and sleep in, and if one portion of your corral is more dry than another, reserve such portion for this purpose even if your feed racks have to be placed in the more muddy part of the corral. The corrals should be made of the proper size to feed not over 100 to 125 head in each, as the cattle will do much better than by putting double that number in a corral, as is frequently done. A trough should be placed in each corral and salt kept constantly in it, and the steer will use just what his system needs, whereas, if salted at irregular intervals they are likely to take too much at one time. When put in the corrals for feeding the cattle should be graded, putting those which will be ready for the market first in a separate corral, and so on down to the thinnest, which will take the longest feeding to make them prime, and beef steers should not be changed from one corral to another more than can be avoided.

Third—To attain the best possible results the providing of good spring or well water, wherever possible, is an essential factor, avoiding so far as possible the use of muddy river or creek water which oftentimes is very cold. Good water is so essential to succcessful results that in feeding any considerable number of cattle, if not otherwise obtainable, the feeder will be well repaid to sink a well and hire a man to pump it.

Fourth—Hire reliable men to feed your cattle, even if you have to pay more, for an unreliable cheap man may cause you more loss ten times over than the difference in wages would amount to in a season's feeding, and see that your steers are fed all they will eat, at regular hours, at least twice each day, being careful, however, not to surfeit them by putting an oversupply of hay in the racks at any one time to be breathed upon and mussed over, thus making it distasteful to the animal, but give the steer all he will eat without surfeiting, for you cannot make him fat and save hay at the same time by stinting him in his feed.

Advantage of Chopped Hay.—Now as to the advantage of feeding chopped over long hay, from personal experience in six years in feeding from 1500 to 2000 head of cattle each season and from as careful and accurate figuring as possible, we find a clear saving or gain of 25% in the net result. Not that the steer will eat 25% less, but that while the wastage is comparatively nothing, merely nominal, the animal will consume somewhat less and gain much more rapidly in weight on the chopped than on the long hay. Long hay is usually fed in racks to prevent wastage, the steer has to place his head and neck in an unnatural position, reaching upwards to pull each mouthful of hay from the rack, which is work, strenuous work for him, and in so doing is very apt to get dust and hay seed in his eyes, making him cross and irritable, and while in that mood the largest or boss steers will hook and drive the smaller or weaker ones away from the feed, while with the chopped hay softened from being moistened, is fed in troughs, the animal eating with his head in natural position, no dust or hay seeds in his eyes to irritate him, his food partially masticated for him by being chopped, and in the best possible condition for easy digestion, will quickly and contentedly eat his fill and not molest his weaker or smaller neighbor, and then go quietly away and lie down till his next meal. We all know how irritating it is to have dust thrown in our eyes, the effect is the same on an animal of lower degree, the beef steer. The less exertion an animal has to make and the less irritation subjected to and the more comfortable his surroundings are made the more contented he is, the easier his food is digested, the more he will gain in weight and the better he will respond in results to the feed put in him.

Chopping Alfalfa.—We have been for over ten months and are still chopping an average of over fifty tons of alfalfa hay per day at an extra expense, including everything, of a fraction less than 35 cents per ton, over the cost of ricking it as long hay. We use what is known as the Ross cutter, extra size, 36 inches (and right here let me advise anyone having a large amount of hay to chop to get the large size for effective work), and run same with a 15 H. P. engine mounted on wheels (12 H. P., however, would be ample). We cure our alfalfa in the cock, hauling same when properly cured, direct from the fields to the chopper, or growler, as the men call it, where it is cut to the desired length (and two-thirds of same we rick), then carried by the conveyors connected with the chopper to the center of the rick, and with very little placing, making a very compact rick (two and one-half tons chopped hay going into same space as one ton long hay) and these ricks when topped out are almost impervious to water on account of being so compact and solid. We have never had the slightest trouble as to the keeping of the hay though chopped and ricked direct from the field.

Feeding.—In feeding the chopped hay we use a large platform with runners underneath alongside the rick, on which we pull down whatever quantity of hay desired for a feed, moistening same well with water by means of a hose to soften it before hauling same to the feed troughs in the corrals in box wagons. We find that the expense of feeding out the chopped hay averages about 15 cents per ton less than the feeding out of long hay. We feed our beef steers with the same regularity that we eat ourselves, twice each day, in the morning and afternoon. The hay fed in the morning having been moistened the evening before becomes soft, palatable and easy of digestion. Immediately after feeding in the early morning we moisten the hay for the afternoon feed. Whenever grain, dry ground barley or mill feed can be obtained at a reasonable figure we find it advantageous to mix, say three or four pounds per diem per head with the chopped hay for four or five weeks prior to placing the cattle on the market, and you get your return not only in the increased gain in weight, but likewise in the improved quality and hardness of your beef—making your cattle rank as grain fed. Anyone raising any considerable amount of alfalfa hay engaged in the business of feeding beef steers, after trying the use of chopped feed, will never revert again to the feeding of long hay. We have been using the chopped hay for feeding beef cattle now for six years, and we find an actual net gain in results of 25%, making each 100 tons of hay fed in

this manner worth as much to us as 125 tons feed in the old way.

In conclusion, let me say to the hog-fed cattle feeder that he, too, must get out of the antiquated ruts of his ancestors and keep step to the march of progress to be successful, and if he will do so, and then when his cattle are prime sell the fattest first, letting the buyer pick them—putting the feed that much longer in the thinner ones to bring them up to a prime condition, and next try to make your prime steers sell your thinner ones, you will be getting a better price and putting your feed where it will bring you ultimately the best returns.

Live Stock at the World's Fair.

Mr. Isaac Bird, Superintendent of the California Pastoral & Agricultural Co. of Merced, writes for the Butcher's Journal the following bright account of observations at St. Louis: The largest stock show that was ever held in the United States has just closed. There were 2400 head of cattle and 1400 head of horses; all the different breeds of cattle were exhibited in the best condition.

The Forum is a quarter of a mile in circumference, surrounded by amphitheater seats holding 1000 persons. The classes were all shown aud judged at one time. There was a judge for each breed, and 456 head of live stock were in the Forum at the time they were judging aged herds, and it was the grandest cattle sight I have ever seen.

There were nine herds of Shorthorns, eight of Herefords, nine of Galloways, thirteen of Aberdeen Angus, six of Polled Durhams, seven of Red Polled, nine of Holsteins, eight of Ayrshires, seven of Guernseys, eight of Jerseys, five of Brown Swiss, one of West Highland and one of Irish Kerries.

The beef breeds were in the highest type of condition that they could be shown in. The dairy strains were also in excellent condition and were a credit to the exhibitors. The West Highland cattle were good for the breed; but any one to look at them would take them for a high type of Arizona cattle, as they have immense horns and are of the old buckskin color. The Irish Kerries are small black animals and resemble Mexican stock.

Choice Goods, owned by the Tebo Land & Cattle Co. of Clinton, Mo., the winner of the event for aged bulls in the Shorthorn class and of the championship of the same class, was returned grand champion Shorthorn bull. Choice Goods won the championship of England and Scotland in 1902 before he was imported to this country, and since that time has won every prize for which he has contested. Prime Lad, owned by W. S. Van Natta & Sons of Fowler, Ind., won the grand championship in the Hereford class. Prime Lad likewise won the aged event in the Hereford class.

C. E. Ladd of Oregon won first award in the World's Fair Cattle Show for the event of aged herds with Brampton Ensign at the head of the harem. Choice Goods, owned by the Tebo Land & Cattle Co., Clinton, Mo., which won first award in the aged bull class, took second award with the four mates that had been nominated with him.

The Horse Show attracted a great crowd, as, of course, everybody is fond of horses, and, as this show excelled any international show, you will know that it was a very fine exhibit. They also had some of the best trained horses that were ever displayed in a show ring.

The California State Building is a credit to the State. It was a great attraction and graphically described one of our greatest industries in the tree line and lumber.

The State exhibit in the Agricultural Building, which is 7 miles long (counting the alleys), is a wonder to Eastern people and outclasses all other States, as there is such a variety of exhibits; the other States have mostly cereals.

THE FIELD.

Alfalfa Notes.

By H. D. Williamson at the University Farmers' Institute at El Cajon.

Alfalfa is almost a perfect stock food, combining nearly all the requisites—a complete ration—for either the growing, working, or fattening animal. As to its money value, experiment stations affirm that the hay is equal pound for pound, to bran, and afterwards the manurial value is claimed to be worth 75% of the value of the hay; this last applies particularly to southern California, where fertilizer costs money.

I know of no place where alfalfa doesn't pay, where water is plenty and the cost of getting it is not too great. Just what that expense may be I am not capable of saying, but at Anaheim good farmers are planting more alfalfa; lifting water 60 feet. The cost of the irrigation must be governed by the price of hay or the market value of the milk, butter, beef, mutton, pork, or whatever you may turn the alfalfa into. I know of no farming business that furnishes as sure year by year moderate income as alfalfa. Our raisin growers and citrus men often beat us, but for the steady pace, alfalfa will always be somewhere on the home stretch.

San Diego county west of the mountains has not a plethora of alfalfa land. Our river bottoms are narrow, and not naturally as perfectly graded as the land contiguous to Los Angeles. Our distillate for pumping costs us more money. The equalizing feature is that our water is close to the surface, and our market is not so apt to be oversupplied.

Growing.—In planting alfalfa experience has taught me several things. First, grade your land as perfectly as possible for the satisfactory use and economy of water; this is absolutely necessary.

Second—The land should be well plowed and harrowed before planting the seed.

Third—From twelve to thirty pounds of seed per acre is recommended for planting. I use fifteen to seventeen pounds. Disc it in and roll the land afterwards. I was told any time in winter was O. K. to sow alfalfa, but I found out that severe frosts would kill it, and the time to sow it here in our valleys was the last part of February.

Pipe irrigation is used quite extensively around Compton. Those using it like it. It economizes water and puts the water on the high places where you want to; does away with parallel ditches and plots or borders.

Flooding.—Simply cut the ditch, or lateral, and direct the water by the use of a shovel. This is too expensive and wasteful for pumped water.

Plots or borders I find the most satisfactory way. I place my borders 30 feet apart—40 would be better. The distance apart and length depend upon the amount of water, and how fast the land absorbs the water. I find on sandy land 200 feet is long enough with 100-inch head, but 400 to 500 feet where the land is of finer texture.

The most important thing is grading, for the land must be well, I might say, perfectly graded to raise alfalfa with profit, both on account of the labor expended and the economy of water.

Sweet Potato Industry in California.

Mr. C. B. Mills prepares the following interesting statements for the Orange Judd Farmer: Good sweet potatoes may be raised in many sections, but in the very heart of the great San Joaquin valley there are several thousand acres of land that seem to be peculiarly adapted to this industry. Here they excel in smoothness and in keeping qualities.

Prior to 1893, the sweet potato was grown only in connection with fruit and was shipped in small lots to San Francisco. At times this crop sold for as little as 40 cents per 100 pounds, and again as high as $3. From this small beginning sweet potato raising has increased and flourished until now 1000 carloads are shipped annually from this favored spot, markets being found as far north as the British possessions and as far east as Colorado and Montana.

The Land and Product.—Sweet potatoes yield from 100 to 200 sacks per acre, and the price is 75 cents to $1.50 per sack at the railroad stations. The land is a light sand, free from flint, and costs from $30 to $75 per acre, with free water right. It is cultivated almost entirely by the owners, who came usually with a limited capital and lived in one room cabins. The only tools, implements and stock necessary to engage in sweet potato growiug are a plow, a shovel, a rake, a hoe, two horses and a wagon.

The Growing.—The seed potatoes are placed in hot beds about March 1 and begin to sprout in from seven to ten days. They are ready to plant in the field about May 1, and are planted in that month. The land is given two good plowings and then is thrown up in ridges about 3 feet apart. The plants are set in the ridges 14 inches apart, and four men can plant an acre of prepared land in one day. Three irrigations are necessary during the growing season, and it requires skill to produce good marketable sweets.

Harvesting begins about October 1 and continues for two months. The tops are cut three rows at a time and rolled over like a carpet to one side. Sweet potatoes are dug with a common plow which splits the ridges down the middle and throws the potatoes on top. They are then picked up and placed in piles of from 500 to 800 pounds each. The vines are put over them to protect them from the sun and the cold nights. About December 1 the perfect sweets are corded solidly in cellars, like cordwood, and are not disturbed again until boxed or sacked for the market. These cellars are made under the small house of the owner, or built half above and half below ground, being about 8 feet from top to bottom, with a capacity of from sixty to seventy tons each. The culls are the large cracked potatoes and the small rooty ones, and it has been estimated that nearly 1000 tons have been used principally for stock feed. They sell in the field at 50 cents to $1 per two-horse load.

Agriculture in Great Britain.

From United States Consul Frank W. Mahin, Nottingham, England.

Last year all outdoor crops of the British Isles were either a total or a partial failure because of the almost incessant rainfall. Tender fruits and vegetables grown in hothouses were, of course, unaffected, except by the absence of sunshine in particular cases. This year set in with the same outlook. Rain fell nearly every day, making it very difficult to plow and seed. In May, however, the weather definitely changed, and up to the present the intervening months have brought an amount of warm, bright sunshine that exceeds the total of several average British summers. June and July, in fact, were too cloudless—no rain for several weeks. The light soil in this part of England was dried through and through, and all vegetation was dying. The remarkable spectacle of brown pastures was seen, and because of brooks drying up water had to be carried to live stock. The ideal weather of the last six weeks, with frequent alternations of rain and sunshine, has checked the threatened total crop failure; but, on the whole, with the excessive rainfall of the winter and early spring and the drought of midsummer, the harvest is not satisfactory.

Potatoes.—The drought so blighted potatoes that it is not yet certain if the yield will be greater than last year, when the crop was almost a complete failure. A hopeful sign, however, is the revival of the potato boom, described in a report from this consulate last winter. [See Pacific Rural Press, April 2, 1904.—Ed.] The Eldorado, which brought such wonderful prices, suffered severely from the drought, but the ensuing rains have so revived it that it is now promising a good crop in Lincolnshire, the chief potato district of England. Several newer varieties of potato than the Eldorado are now being introduced and bring $5 to $10 a pound. One is the Dalmeny Radium, a product of Lord Rosebery's estate. Some tubers of the Pearl, a new variety, have been sold at $25 apiece, which is said to work out at the rate of $230,000 an acre. At one sale just made by auction the price went as high as $65.70 for one tuber. Another new potato is the Recorder, an especially early variety. A meeting of growers of it in Lincolnshire has agreed that none should be sold this year for less than £100 ($486) per ton. Some sales at that price have already been made. [These prices apply, of course, to new varieties of potatoes for seed purposes, in the hope that they are better than all varieties now grown.—Ed.]

Hay was gathered early, and is of good quality, but lacks in quantity on account of the dry summer.

The drought shortened the small-fruit crop, which gave wonderful promise at the beginning, but the crop of outdoor tree fruits—apples, pears and plums—which was almost a total failure in 1903, is fine this year in both quality and quantity.

Lavender is one of the few products not hurt either by the spring rain or the summer drought. The rains caused a heavy growth of flowers. These were gathered in July and sold by street hawkers, and in August the plant was harvested for distillation. Surrey, Kent and Hertfordshire are the chief lavender-growing counties, their product yielding about 75,000 gallons of lavender water each season.

Hops.—Hops, which are very important in this country, lack both in quality and quantity this year. Aphis blight attacked them in the spring, and the midsummer drought increased the disaster. The August rains came too late to materially improve their condition. Kent, Sussex, Worcester and Hereford are the principal hop-growing counties. The total yield is estimated at from 280,000 to 320,000 cwt. Last year it was 421,068 cwt. This year's crop breaks the record in cost of transportation, as well as in work and anxiety. The annual consumption of hops in the Kingdom ranges between 700,000 and 800,000 cwt. The import required will be the largest for many years, and prices are sure to be higher than usual.

Cereals.—The wheat area of the United Kingdom this year is the smallest on record, being 1,400,000 acres. The average for the preceding ten years was 1,827,981 acres. But the total yield this year appears to be somewhat in excess of that of 1895, the year of next smallest area, being about 40,000,000 bushels. This is about 5,000,000 quarters, and will leave the Kingdom dependent upon over-sea supplies for about 27,000,000 quarters (216,000,000 bushels), either as wheat or flour. This year's crop is 8,000,000 bushels short of last year's, and the yield per acre—23 bushels—is 2 bushels less. The quality is generally fine this year, though the straw is unusually short, which is attributed to the summer drought, during which, however, the grain seemed to thrive, being then well established. Prices are expected to advance somewhat. Though good on the whole, the wheat harvest in a few sections was very poor this year. This was notably the case on the fenlands of Lincolnshire. The soil is a heavy clay, and the rains of last autumn and winter left it in such a state that the little wheat which could be planted did not bring half a crop. Barley was substituted in some cases, but its yield was poorer than that of the wheat.

Full details as to the other small grains are not yet obtainable, but it would seem that what can be said of wheat applies generally to oats, rye, and barley.

Co-operation.—On the whole, the agricultural depression in the Kingdom is not lessened this year. Various remedies are talked over, but the most promising, in the estimation of leading farmers, is co-operation, which is working profitably in Denmark. Heavy railway freight charges handicap the British farmer, and a reform in this direction is also considered vitally important.

Nottingham, England, September 7.

Agricultural Review.

Alameda.

CHERRY TREE BLOSSOMS.—Oakland Enquirer: Mrs. E. A. Sherman, wife of Major Sherman, has a branch of a cherry tree growing in the yard of her residence which bears a cluster of blossoms, the second which have appeared on the tree this season. The tree is a Black Tartarian and bore the usual crop this season, and the blossoms are probably due to the unusual spell of spring weather which Oakland has been experiencing, accompanied by an unusual rainfall in September. The tree is a large one of many years' growth and is not known to have been guilty of such a freak before.

FINE FIGS.—Washington Press: These figs are the finest of the kind we have ever seen, and speak well of the thrift and up-to-date character of the work done at the California Nursery. Think of a Smyrna fig measuring 7¾ inches in circumference and weighing nearly four ounces, and Capri figs half as large.

Fresno.

CRUSHING GRAPES.—Sanger Herald: The Sanger winery is crushing lots of grapes this season and bids fair to exceed last year's run of 1100 tons. The lessees have employed a competent wine maker and manager, with the result that they will clear at least $10,000 this year.

Glenn.

DUCKS NUMEROUS. — Willows Transcript: Never before in the history of the county have there been so many ducks here as at present. Fred Quint and other farmers on the Grant have men scaring ducks off their fields and are counting the days until the 15th of this month, when the season opens, so they can invite all the sportsmen in the county to come out there.

Humboldt.

WAGOR ROAD LONG WANTED.—Ukiah special to Sacramento Bee: Alex Edgmon came down from Bridgeville Saturday with the tidings that Friday witnessed the final completion of the 4 miles of wagon road which connects Humboldt with western Trinity county. The people of Upper Mad river are much pleased over the building of the road, as it will enable them to get into Humboldt county with ease. The road which is to connect Mendocino county with southern Trinity will soon be in course of construction, bids having been advertised for and contracts let for the construction of the road. This will mean as much to the residents of northern Mendocino and southern Trinity as will the road just completed which connects Humboldt with Trinity county.

Los Angeles.

HEAVY CITRUS CROP.—A Los Angeles dispatch says: With a total of nearly 27,000 cars in sight, the new southern California orange crop, while not a record breaker in volume, promises to prove a close second to the season that will close November 1. From conservative estimates the new season is expected to show a total of 4% short of that of this year, the aggregate of which will probably reach 28,000 cars. In the figures quoted lemons are included. According to reliable reports that appear to be general in all localities affected, the new fruit will ripen early. It will be large in size and of the highest quality.

FINE HOME GROWN APPLES.—Pomona Times: H. Clark of East Kingsley has some fine samples of apples grown on a five-year-old tree on his place. The tree has borne every year since the first after planting, and this year the crop amounts to about five bushels. He has kept them till January in sound condition. He bought the tree for a Baldwin, but he is satisfied with it. Four apples weighed 2½ pounds strong. He says they are delicious for cooking and when mellow good to eat out of hand. The color is green, with a light red shading on some.

SUBJUGATING BLACK SCALE.—Azusa Semi-Tropic: The spraying and fumigating campaign is now under way, but there will be less of this work done this fall than for several years past. The scutellista fly is getting the upper hand of the black scale so completely that many orchardists are finding it unnecessary to either spray or fumigate.

ORANGE PRICES GOOD.—A Pomona dispatch says: The annual report of the Narod Fruit Growers' Association, which is a branch of the Ontario, Cucamonga and Upland Fruit Exchange, is very satisfactory to the stockholders. The report shows that an average of $1.12½ has been paid to the growers of Navel oranges on each hundredweight. During the season which began last November and closed August 6 the sum of $32,140 has been paid to the growers of the Narod Association. Profits of $300 an acre on Valencias is common in this association. S. C. Pitzer, from fifty-eight Valencia trees, occupying a little more than half an acre, has had gross receipts of $574.35. Last year the same trees yielded him gross returns of $631.

HORSES POISONED.— Pasadena Star: Dr. Medici de Biron, the Humane Society's officer, reports that four horses met their death from strychnine poisoning. They were on pasture at the Newton ranch. Mr. Newton owned a valuable colt. The others were the property of three Mexicans. It is thought probable that the horses in some way ate some poison that the Pacific Electric Co. has been putting out along its line for squirrels.

Mendocino

RETURNS FROM PEARS.—Ukiah Dispatch-Democrat: A. W. Foster sold 100 tons of Bartlett pears off of ten acres of young orchard near Hopland. The price paid was $25 per ton. P. R. Myers sold 65 tons of pears off of five acres at the same figure.

Orange.

SHIPPING WALNUTS.—Anaheim Gazette: The deciduous fruit association of Anaheim began receiving walnuts for shipment on Monday, the 10th. The association expects to ship twenty-five ten-ton cars, as against ten cars last season, when the crop was short. Crop reports from various parts of the nut-growing district are to the effect that the crop will fall short of estimates made a month ago. The entire output will not exceed 800 cars. Quality of nuts is first class.

MORE MONEY OR LESS BEETS.—Democrat: The beet farmers of Los Alamitos and vicinity have organized to advance the price of beets for the season of 1905. They say labor and material have increased 20% in the last two years and they cannot afford to raise beets at the present price, and want an increase of 40 cents a ton. Considering the high price of sugar the refiners are getting 1 cent a pound, or $3.50 more for the sugar contained in a ton of beets than they did two years ago. The farmers feel that the refining companies could well afford to give them 40 cents out of the $3.50 a ton increase.

BUYING WALNUTS.—Independent buyers are paying 10¼ cents a pound for unbleached and ungraded walnuts delivered at the packing house at Santa Ana, as compared with the price of 11 cents per pound which the association will receive for its first grade nuts bleached and f. o. b. Santa Ana. The two prices are considered about equal.

Riverside.

PUTTING IN GRAIN.—Register: The Kerr Farming Co. will put in several thousand acres of grain this year in and around San Jacinto. The work will be done by steam, no horses being used.

Sacramento.

DESTRUCTION OF ISLETON CREAMERY.—Union, October 10: The town of Isleton had a narrow escape from destruction yesterday morning. Had the wind not been from the northeast, a blaze that destroyed the Isleton creamery would have spread to the business section and all efforts toward checking its progress would probably have proven ineffectual. Blazing oil, scattered in every direction, gave the flames considerable headway, and the lack of water balked the efforts of volunteers. The creamery, together with 1300 pounds of fresh butter, was a total loss, amounting to about $7000. The principal owners are, F. H. Gardner, Mrs. Sol Runyon and the H. S. Smith Co.

San Bernardino.

SURVEY COMPLETED. — Times-Index: The platting of the public lands in the mountains and desert northeast of San Bernardino valley is about completed. This has been one of the most important undertakings by the Government in this locality, requiring a small army of men, several long pack trains and the outlay of over $100,000, one contract alone calling for the payment of $50,000. With the completion of the work there remains but few portions of this county not subdivided and shown on the government maps. The work was hazardous, as it called for the entrance into regions not easily accessible, and lines had to be run along precipices where the slightest slip or misstep meant death on the rocks below.

QUAIL TOO NUMEROUS. — Redlands Facts: Although the quail season does not open until October 15th, there are many ranchers throughout the Yucaipe and adjacent sections who would be much pleased to have a number of hunters out there during every month of the year. Discouraging reports are being made every day regarding the depredations of practically unlimited bevies of quail. One farmer, living in the vicinity of Beaumont, says the birds have completely ruined a 40-acre field of barley belonging to him. Many other tillers of the soil thereabouts have had similar experience. It is stated that in a few instances poison has been resorted to as a means for securing relief from the quail, but the extent of this practice cannot be learned, as the penalty for such action is very severe in the event of a case being taken into court.

YOUNGSTERS ROB BEEHIVES.—Sun: Fred Secombe rounded up a gang of small boys who have been stealing honey from the apiary of Charles Mecham. Like all small boys and bears, they like honey and have been making repeated trips to the place, and had emptied one whele hive. The youngsters were given a fatherly talk and allowed to go, on the promise that they would cease from troubling.

San Joaquin.

LARGE BUNCHES OF TOKAYS.—Stockton Mail: Bob Adams, the Acampo vineyardist, finds that the rains have not done as much damage to grapes as was anticipated. He sent some immense bunches of Tokays to friends in Stockton. Some of the bunches weighed nearly five pounds, with the grapes all fully developed. On one bunch was a grape which appeared to be the result of three or four growing together. It was for all the world like a tomato in appearance.

FRUIT TREES IN BLOSSOM.—Mail: The springlike weather has been causing some peculiarities of fruit tree growth. It was only recently that an apricot tree in this city blossomed a second time. At the residence of D. J. Matthews are two fall pear trees in full bloom. The pears from the first crop are lying on the ground under the trees, and up to a few days ago were still on the trees. There will probably be no second crop of pears, as cold weather will kill the young fruit.

MAMMOTH PUMPING PLANT.—Lodi special to Sacramento Bee: A mammoth pumping plant, with a capacity of lifting 50,000 gallons of water each minute, and a reserve power of 10,000 gallons, has been installed near Terminous. The plant will be used to drain the land in times of high water. When the break in the Sacramento river occurred last spring, 9000 acres were flooded, and now there is 4 feet of water on it.

Santa Barbara.

ISLAND SHEEP SHEARING. — Press: The Santa Rosa island schooner, in charge of Captain Widing, left recently for Santa Rosa island with a gang of sheep shearers, who will be employed during the next two weeks shearing the sheep that are raised on that island. The schooner has just returned from San Pedro, where she delivered a load of sheep from the island. Large numbers of sheep have been shipped from there lately, leaving only about 700 head.

RARE SPECIMEN OF BAT.—The mechanics employed in remodeling the court house, while tearing out an old cornice, discovered a bat of rare species. It is red in color aud is much larger than the common black bat frequently seen flying about at dusk. It was captured and put in a cage, where it is an object of much interest on the part of visitors to the court house.

Santa Cruz.

APPLE DISEASE PUZZLES GROWERS. —Watsonville Pajaronian: George Sill has gone up against a new condition in the fruit business. Some time ago, long before the hot spell, he shipped a fine-looking consignment of apples to London. They were fourtier stock and as firm and pretty looking apples as ever left this market. Recently he received a cablegram from his agents in London informing him that the consignment had arrived in poor condition, owing to certain blotches that had developed in transit on the major portion of the apples. In the investigation immediately started by Mr. Sill, he found that a peculiar blemish appeared on the apples; there were light blotches all over them; and yet it was not dry rot that had attacked them. The disease, or whatever it is, is entirely new and unexplainable. He has sent samples of the apples to the agricultural department of the State University and is awaiting a report.

GOOD OAT CROP.—Pajaro valley produced a banner oat crop this year; in fact it was the largest in several years and prices were also higher than for many seasons past. Messrs. W. A. Trafton and T. J. Horgan, two of the best informed local men on matters pertaining to oats, estimate this season's yield of oats in Pajaro valley at about 150,000 bags, averaging in weight about 105 pounds each. Last season the crop was from 25,000 to 40,000 bags less. Prices have ranged throughout the season from $1.25 to $1.55 per cental as against $1.10 to $1.40 last year. About three-fourths of the crop of the valley has already been sold.

Siskiyou.

HEAVY CATTLE SHIPPED.—Montague special to Sacramento Bee: Twelve hundred head of beef cattle belonging to the Oakland Meat Co., James McDermott and Lewis Gerber, left here Thursday in two special trains for San Francisco, Oakland and Sacramento. There will be more cattle shipped from this point within the next thirty days than any railroad station on the coast.

Sonoma.

HOPS 31 CENTS.—Healdsburg Enterprise, Oct. 8: Hops continue their upward flight and sales are now being made at 31 cents. The market is very strong. All prophesy that prices are still going up, and that 35 cents will not be considered too high for prime stocks within a few days. The growers are even looking for stronger demand yet and consequently increased prices.

OPERATE THREE PLANTS. — The French-American Wine Co. are large consumers of Sonoma county grapes. A. Chaix, president, says they will crush at their three wineries in this county — Healdsburg, Cloverdale and Madrone — over 6000 tons of grapes this season, which approximately is $90,000 this firm will distribute to the grape growers in this county. Over 2000 tons will be crushed at their Rutherford, Napa county, winery.

GRAPE GROWERS DO NOT SIGN.— Petaluma Courier: The scheme of the California Wine Association to force the grape growers to sign five-year contracts has failed. A few growers signed, but over 80% of the vineyardists of Analy township took a firm stand in opposition to the plan and sold their product for $13 per ton this season rather than tie themselves up for five years at the rate of $15 per ton. Many growers sold to independent buyers for $13 cash, and some grapes were consigned to San Francisco, Sonoma and other places. The Association is paying $13 per ton on the three-payment plan, with a deduction of 59 cents for each degree of sugar under 22%. Owing to the unusual hot spell in September and the more recent heavy rains, the sugar test is low, the average not being over 19%. This gives the growers only about $11.25 for their grapes and the money paid on the installment plan.

CHERRY BLOOMS IN OCTOBER. — Healdsburg Tribune: Mr. A. A. Wilson brought to the office last Saturday a branch from a Tartarian cherry tree which was one mass of white bloom. It was from a tree on his place, and Mr. Wilson stated that the whole tree is in bloom. If the weather holds favorable it will probably mature its second crop of cherries for this year, and be ready for business as usual when spring opens next year.

Trinity.

BUTTERFLIES.—Weaverville special to Sacramento Bee: An innumerable swarm of butterflies struck Weaverville Monday evening. It is supposed that the recent heavy storm which left considerable snow on the mountains has driven them down into the valley. A man who climbed Mt. Bally, altitude 7600 feet, in August, reported having seen butterflies on the mountain top at that time. Although there are millions of them in this basin already, it is stated by travelers coming from Junction City, 10 miles distant, that Oregon Gulch mountain is covered with them, and that when they rise from the ground they have the appearance of a cloud. Old timers state that a like flight of butterflies occurred thirty years ago, and the following winter was one of the heaviest in the history of the county.



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THE LAWRENCE-WILLIAMS COMPANY, Cleveland, Ohio.

The Home Circle.

Room for the Old Horse Yet.

Though the trolley goes buzzing along the highway
And under the blossoming trees,
And past the broad fields where the scent of the hay
Floats lazily out on the breeze:
Though it fills the red steed with suspicion and fear,
And causes the goslings to fret,
And zipps up and down through the once quiet town,
There is room for the old horse yet.

Though the automobile whizzes over the scene
That once was so peaceful and still,
Leaving dust in its wake and the scent of benzine,
As it disappears over the hill;
Though its zipps and its jolts give alarm to the colts,
Let us not for a moment forget
That, in spite of man's need of excitement and speed,
There is room for the old horse yet.

A thousand inventors are busy to-day
Building ships to be sailed in the air;
By to-morrow the eagle may flutter away
From the gay people soaring up there:
The chicken may squawk, seeing men as they flock,
As high as the birds ever get,
But in spite of the things we may do with our wings,
There is room for the old horse yet.

Though the lightning express, with its rush and its roar,
Remains but a moment in sight;
Though the trip that took months in the wagons of yore
Is easily made in a night;
Though the engine's wild toot causes heifers to scoot,
And the country lies under a net
Made by long rows of steel for the steam-driven wheel,
There is room for the old horse yet.

—S. E. Kiser.

Two Discoveries.

"I'm always wondering," remarked Elva, reflectively, as she handed me my second cup of tea, "when you're really going to fall in love, and—"

"Don't be too hasty," I interrupted, as I assisted myself to sugar; "perhaps I'm even now consumed with the disquieting fever."

"You're so fat," said Elva disparagingly.

"Nonsense!" I protested. "Simply well covered. Why, my tailor altered my measurements only yesterday!"

"Oh, of course, if you won't be serious," she sighed, resignedly, and prepared to nibble a judiciously browned muffin; "but really, Monty, you're—let me see—forty—you're independent, and —'um—"—she regarded me critically with her head on one side—"passably good looking; and yet you let pretty, nice, suitable girls slip through your fingers by dozens, because you're either too lazy or too conceited to take sufficient interest in them."

"Don't lecture me," I pleaded—Elva is prone to lectures; "you're so dreadfully impulsive, you know. As a matter of fact, I looked in this very afternoon on purpose to tell you how—how abominably in love I am!"

Something in my tone must have struck her as unusual. The muffin, like Mahomet's coffin, remained suspended while she surveyed me intently, presumably to see if she could detect any latent humor in my countenance.

I did not move a muscle.

"If I were quite certain that you were in earnest," she began, hesitatingly, and I thought—though, of course, I had no business to think—that her voice was a little unsteady, "I should say how very glad I am."

"Please try and believe me," I pleaded.

She studied my face as if undecided what to do.

"Is it recent?" she asked at last.

"It happened—yesterday," I confessed. "You remember, I always promised that you should be the first to know whenever I really had anything to tell, and I was just going to begin when you fell upon me."

"Yesterday?" murmured Elva, in evident surprise. "Then it must have been at the Follet garden party."

I nodded.

"Was it love at first sight, or had you seen her before?"

"I had seen her," I said, guardedly, "once or twice."

"Oh!" said Elva, and I think she flushed. "Then of course, it's Mollie Richards. I saw you talking to her. She's a nice girl, I believe, and I'm really awfully glad, Monty—awfully." Somehow her tone didn't carry the conviction it was doubtless intended to convey; I presumed it was because Miss Richards was never a very particular friend of hers.

"I suppose," she went on, "you'll propose at once. You've no need to wait like most poor creatures."

"I intend," I said, firmly, "to offer myself with as little delay as possible."

"And you really don't mind my taking the privilege of an old friend—a very old friend—to ask you all these questions, do you?"

"Not the least in the world," I said, graciously; I expected them."

"What do you mean by that?" she inquired, with suspicion.

"Nothing, except that you've catechised me about my matrimonial prospects ever since you could toddle. Do you remember, for instance, asking me at a schoolroom tea in your early youth whether it was my intention to marry Fraulein or not?"

Elva's face brightened promptly. "Rather!" she said; "and Fraulein turned all sorts of colors, and told mother the next day that she would no longer stay 'with a child so embarrassing.' I really think she had a fondness for you, Monty."

"Probably," I agreed. "Many people have."

"Don't be conceited!" reprimanded Elva; "but tell me all about Mollie Richards, and exactly what attracted you. Some people call her pretty, I—I rather admire her myself, only—"

"Mollie Richards?" I inquired, with extreme innocence. "Who said anything about Mollie Richards?"

"Why, you did, of course, that is to say—yes—no, I suppose you didn't, then—why, I did, I suppose; but anyhow what's the good of cavilling about her? It is Mollie Richards, isn't it?"

"I wouldn't marry Mollie Richards," I said, decisively, "if they shot me for refusing!"

Elva poured herself out some more tea, and—yes, it was not my imagination—her hand did shake, and she looked as if it would have been a relief to her feelings to have launched the teapot at my head.

"Monty, you are trying," she exclaimed; "upon my word you are! You insist that you've come to tell me as your best friend that you've really found some one that you could care for at last, and then you sit and twist your mustache and make me guess all the wrong people, and—"

"I never made you guess any one," I said, indignantly, removing my hand from my upper lip with a jerk. "I merely informed you that I fell in love yesterday. I suppose there's no objection to that? And when you suggested that it happened at Follet's I agreed."

"Well," said Elva, in a judicial tone, "you didn't stay more than three-quarters of an hour. Directly you arrived you took me to see the aviary, and the rest of the time you spent with Mollie Richards."

"If I'd known you were watching my movements so carefully—" I began.

Elva blushed furiously.

"When people make themselves conspicuous," she said, frostily, "their doings are bound to form the subject of comment. Mollie Richards always persists in wearing maize with her particular shade of red-auburn hair, and—I could see her from all over the garden."

"Almost without looking?" I suggested, carelessly.

Elva passed over this remark with contempt, but I couldn't help noticing that the flush deepened.

"Well, as it's not Mollie," she observed with dignity, "and as you've called on purpose, perhaps you'll be obliging enough to tell me who it is, so that I may congratulate or condone with you as the case may be."

"You'll condone," said I, with conviction.

"Why, please?"

"Because she—this girl, who isn't Mollie Richards, you know, doesn't care a straw for me—in that way, and the whole thing is hopeless."

Elva softened instantly.

"How can you tell if you've never asked her?" she demanded. "She may be simply pining away for your sake, if you only knew"—her gaze wandered through the window and settled on a bed of brilliant begonias in the front garden—"girls don't always wear their hearts on their sleeves, even in these matter-of-fact days, Monty."

I raised my eyes. They had been busily engaged in tracing the pattern of the carpet.

"Do you think it's likely," I asked, "that any girl would really fall in love with a man twice her age, if—"

"Oh, she's young," interrupted Elva hastily. "Do you know, I'm rather glad of that."

I held up a deprecating hand.

"Please let me finish," I implored. "Twice her age, when she's tyrannized over him, teased him and looked upon him as an old fogy for the greater part of her natural life?"

Elva eyed me sharply. The color came and went in her cheeks in a way that I had never seen it come and go before. I put my eyeglass in order to better admire the effect.

"You said you'd seen her only once or twice," she resumed, severely; but the quiver in her voice robbed the severity of any sting.

I waved my hand.

"Lovers' license!" I said airily. "I couldn't divulge everything at once."

"If you've known her so long, how comes it that you only—well—discovered the state of your feelings yesterday?"

"'There is a tide in the affairs of men,'" I quoted. "Likewise, there is a psychological moment when a man suddenly realizes a fact that may have been staring him in the face for years."

"And that psychological moment occurred at Follet's?"

"Occurred at Follet's," I echoed. And then there was a long silence.

I let my eyes wander slowly round the room. They lingered vaguely on the ridiculous blue cats with which Elva adorns her mantelshelf, and skimmed the photographs of her numerous admirers—some of them thrust carelessly into the overmantel, and some, the more fortunate, smirking at me from elaborate frames.

I think Elva's eyes must have been wandering, too, for they came to anchor at the same moment as mine, and then, without any rhyme or reason, they filled quite suddenly with tears.

Now I can never see a woman cry without feeling that something—something drastic must be done at once.

I started up, and then the rest seemed to follow as a natural and easy consequence.

In less time than it takes to chronicle, Elva was crying quietly on my shoulder, and the blue cats were grinning diabolically from their several coigns of vantage.

"And when," I asked, after we had become more or less normal, and returned to earth once again, "when was your psychological moment, Elva?"

Elva fingered a bud in my buttonhole—took it out—smelt it, and replaced it carefully.

"When you pretended—I mean, when I thought you weren't pretending, and that it was Mollie Richards, you know," she said, incoherently.

And the blue cats grinned more than ever, as much as to say, "We know something about human nature though we are only china."—Chris Sewell in Free Lance.

Degeneracy of the Public Taste in Tea.

It is strange how the public taste in teas has of late degenerated almost everywhere, except among the high-class natives in China, so that a tea with an almost black color, that will stand a lot of hot water the second time, has actually become a favorite. Its color, strength and rough taste, the last due to an excess of tannin, are its chief characteristics, and are actually often given as the reasons for preferring it to a perfect tea that is amber-like in color and delicate in aroma. The former is the tea that has to be drowned in milk or cream and disguised with sugar.

Blends.—In blending teas the tea-tasting expert has at times to use milk, for there are teas that refuse to mix kindly with milk, and in that case another sort has to be added to obviate that difficulty. Blended or mixed teas have become popular and are largely advertised by the leading wholesale grocers in the United States, and instances are doubtlessly frequent where our consuls in tea-growing countries have recommended in their trade reports certain teas for blending purposes. These blends are as a rule much cheaper than the unmixed article.

Proper Tea Infusion.—Tea when properly prepared for use is an infusion, not a decoction. I have found that the proper way to "infuse" tea—or to "brew" it, as it is sometimes styled—is to follow the four following concise rules prepared by an expert, Thomas A. Phelan, president of the National Tea Association of the United States:

1. Let the water be fresh from the faucet.
2. Let the water boil furiously five minutes before using.
3. Let the water remain on the leaves not less than seven nor more than ten minutes, and then be poured off into another heated vessel
4. Use one full teaspoonful of tea for every cup of water; or, if the resulting drink is too strong, reduce the quantity.

These rules are easy to remember and equally easy to follow. If every housekeeper will observe them, there will soon be a noticeably increased demand for the daintiest, purest and cheapest beverage in the world I should add that, after proper infusion, the tea ought to be drunk, and not allowed to stew or simmer in the teapot.

The Use of Soap.

A paper on the use of soap naturally involves the consideration of a number of facts regarding the skin and its uses.

The skin, by virtue of its excretory functions, rids the system of an immense amount of the impurities held in solution in the watery elements of the body. Moisture evaporates, leaving no trace of its presence, but the more solid portions remain on the surface of the skin and these, together with dust and grime, must be removed if one would keep the skin healthy and up to its highest standard as an excretory organ.

Perhaps every one is aware that in certain parts of the world where water is scarce, the use of clean sand is employed as a cleansing agent for the skin. For the mass of mankind the use of water is more convenient, and is of course practically the only agent employed to rid the skin of impurities.

Soap is but an aid to assist the removal of dust and grime by virtue of its solvent properties. Soap is also desirable when the water employed is hard; that is, when it contains mineral properties which cause it to be less solvent than water free from mineral matter.

It is unnecessary to say that all soap used as an aid to cleansing the skin should be of good quality, since it is well known that soaps containing alkali in a free state are irritating and make the skin dry and harsh.

The use of soap is generally omitted or restricted on parts of the body like the face, where the skin is thin, and where it is not subjected to the intimate contact with dust which falls to the lot of the hands.

When soap is employed frequently on the face, the protective oily substances of the skin are removed to a greater extent than is compatible with its healthy condition, and the same is true, although perhaps to a less extent, in the case of the scalp.

After the use of soapsuds on the scalp, which is occasionally resorted to by most persons as a hygienic measure, the use of some oily substance may be

employed with advantage. This acts as a temporary substitute until nature has had time to replenish the hair with oil. A better plan is to wash the scalp and hair with water into which a teaspoonful of vinegar has been stirred.

After exposure to sun and winds, the use of soap on the face should never be resorted to, but rather some soothing, oily preparation; as, for example, vaseline, cold cream or cocoa butter. As a precautionary measure, any one of these may be used beforehand, to prevent irritation from exposure; this is especially useful in very dry climates.

It was formerly the custom to use buttermilk for the skin, and the application of this homely remedy as a protective against sun and wind is doubtless all that it is claimed to be as a preservative of a good complexion.

The use of soap on the hands in cold weather, during exposure to winds, and in hot weather, during exposure to the sun, should be supplemented by the use of an oily preparation for keeping the skin in a healthy state and free from the many disorders of greater or less severity, of which weather extremes may be the starting point.—Youth's Companion.

Fruits as Medicines.

Fruits are divided by the famous French doctor, Dupoury, into five classes—(1) acid, (2) sweet, (3) astringent, (4) oily and (5) mealy.

In the first he counts cherries, strawberries, raspberries, gooseberries, apples, peaches, lemons and oranges, and regards them as of great hygienic value.

Cherries he prohibits to those affected with neuralgia of the stomach.

Strawberries and raspberries he recommends to the bilious and gouty, and denies them to those affected with diabetes.

Of the sweet fruits he particularly values plums, especially for the gouty and rheumatic.

The small-seeded fruits, such as blackberries, raspberries, currants and strawberries, are among the best foods and medicines. Their sugar is nutritious, their acid is cooling and purifying.

Grapes he awards the first place and thinks them the cure par excellence for the anæmic, dyspeptic, consumptive, gouty and bilious.

Bananas are recommended for the typhoid patient.

Lemons and tomatoes are cooling.

Lemonade is the best drink in fevers.

The juice of half a lemon in a teacupful of strong black coffee without sugar often cures a sick headache.

The apple is one of the best of fruits. Baked or stewed, it generally suits the most delicate person.

Green figs are an excellent food and are laxative.

Prunes supply the highest nerve or brain food. Dried figs contain heat, nerve and muscle food, hence are good for both cold and warm weather.

Sweet, ripe fruit in prime condition only is called a perfect food.

No Pay, No Cure.

"Mister," said a little child to the herb doctor, or "root doctor"—as they are sometimes called in some parts—"Mister, mamma says them las' pills you sold her didn't do no good, and she told me to ask you to send her some other kind this time," and saying which she placed the empty box on the doctor's rickety desk.

"Lemme see," said the doctor, as he adjusted his glasses and looked over his book. After inspecting the book for a few moments he looked up and said:

"Humph! humph! I see wear the trouble is. You tell yo' mammy, honey, dat she nevah paid fur dem las' pills she got, an' tell her she can't spec' fur dem to do her no good 'cep'n dey's paid fur!"—Lippincott's.

Buttermilk is said to be very fattening, and is a good beverage for sedentary people, since it corrects certain physical disabilities. Hot buttermilk is recommended for colds.

The Deserted Cottage.

What do I see as I stand—I, in the sunshine—alone,
The door ajar in my hand, my foot on the threshold stone?
What do I hear in the wind, whispering under the eaves?
What do I hope to find—blossom or fallen leaves?
Here, where the dulled, dim square of a window, long since blind,
Registers, unaware, the desolate void behind;
Here, where a tangled rose, trailing across the latch,
Tenderly clings and grows up to the crumbling thatch.
Nay! but I see, but I hear, all that the years have wrought.
Laughter, and smile, and tear, intimate jest and thought,
Voices of those long dead, footsteps of those afar,
Words that were left unsaid, kisses no time can mar.
If I should venture in, I, from the threshold stone,
Say, should I find the thin ghost of my youth alone?
Grasping at joys long fled, would not the silence he
Sinister, mocking, grim—crushingly near to me?
Whisper thy sighs, O wind. Roses, thy door defend;
I, on the Road of Life, I will go on—to the end.
All that we hold we lose, all that we give is given;
We shall find our own Beyond, and the finding will be—Heaven.

Hints to Housekeepers.

It is a good plan to save all pieces of old table linen for use in drying green salads after they come from their bath.

When the asbestos in stoves and fireplaces becomes blackened it may be cleaned by sprinkling it with salt and allowing the gas to burn for a while.

Muffins and gems made without eggs, but with more milk and butter, the batter beaten with a wooden spoon till it is very light, are said to be indistinguishable from those made with eggs.

The small hard pear that is not especially good for canning will make a welcome pickle as well as the hard, sweet wild apple. It is foolish to use good cooking and eating apples in a pickle.

Tea matting, which any grocer will give to a customer for the asking, may be charmingly utilized in decorating a room with flowers, ferns or foliage. Fashion the matting into baskets, cornucopias and the like, and tack them under pictures, in corners and in other desirable places.

It is not uncommon to see in household periodicals and cook books recipes for pickling pineapples, cherries, apricots, prunes, strawberries, quinces, and so on indefinitely. While such goods may be edible, it is the height of extravagance to put them up in a way that hides their flavor.

A woman who dropped a large piece of butter on her silk waist was in despair, for there was no benzine or French chalk in the house. A sudden inspiration caused her to cover the grease spot thickly with talcum powder, leaving it over night. In the morning the spot had disappeared.

In furnishing a house, it is no extravagance to cover the kitchen floor with the best quality of linoleum, costing about a dollar and a quarter the square yard. There is practically no wear out to this floor covering, it is easily cleaned, offers no harbor for dust or insects. Linoleum is made of cork, ground in oil, and subjected to great pressure. Very good qualities are now made in this country, and the American designs are often very artistic. The patterns are not merely printed on the outside, as in the case of oilcloths, but go clear through the fabric. Thus they endure until the linoleum is worn through.

If a woman has unusually heavy hair, it will, as a rule, be found that it grows scantily about the forehead, says a writer in Harper's Bazar. This may be because the very weight of it, done up on the head in the back, pulls upon the front and strains it there. A very little vaseline rubbed in most carefully at night all about the forehead, and washed out as carefully in the morning, will be soon seen to do wonders in restoring this growth of hair. The word "soon" is used comparatively, however. Most people expect too speedy return for their care of the hair. Three or four months are generally necessary before any result can be detected.

I Say, Old Pard, This Yere's THE Lard:



Golden Gate
(PURE LEAF).
FAVORITE IN
CAMP AND HOME.
Western Meat Company,
SAN FRANCISCO.

Domestic Hints.

Baked Tomatoes. — Stuffed with boiled or steamed corn, cut from the ears and highly seasoned, they are seasonable just now. Sprinkle the tops with fine breadcrumbs and dot with bits of butter before placing in the oven. They are especially good with roast beef or with beefsteak.

Chocolate Ice Cream.—One-quarter square of chocolate, one tablespoonful of sugar, one tablespoonful of boiling water, one-third cupful of thin cream, a few grains of salt and two drops of vanilla. Melt chocolate in small saucepan placed over hot water, add sugar and boiling water gradually, stirring constantly. Pour on slowly the cream, add salt and vanilla, then freeze.

Escalloped Cauliflower. — Cold cauliflower can be made to do duty as a brand new dish on the following day by being escalloped. Break up the sprigs and cover with boiling milk in which a tablespoonful of flour and butter have been blended. Season to taste. Cover the top with grated bread and put in oven to bake, moistening during the process by basting with the milk in which the cauliflower is cooking.

An Economical Dish.—Chuck steak is "tendered" and well larded with fine clear suet. It is then spread out and dredged with flour. Next peas, potatoes, carrots and bits of celery are cut into dice and strewn over it. It is then rolled over and over and the ends well secured by strings or skewers. Afterward this is placed in a casserole, in which is good beef gravy, a bay leaf or two and a few pepper corns, and allowed to simmer till meat and vegetables are tender.

Potatoes and Bacon.—A delicious breakfast or luncheon dish is potatoes stewed with tender bacon. Cut the bacon into large dice and fry until very slightly colored. The bacon should not be allowed to crisp. Drain and mix with creamed potatoes prepared in the usual manner, that is, cut in cubes, and warmed in a rich cream sauce. Let the potatoes and bacon simmer for a few moments before serving, that the two flavors may have a chance to mingle. Sprinkle with minced parsley.

Green Tomato Pickle.—Slice half a peck of green tomatoes, spread on platters, strew with fine salt and leave over night. In the morning wash off the salt and chop them. Put into a preserving kettle and add half a pint of whole mustard seed, two large onions, three green peppers chopped fine, seeds and all; one tablespoonful of cinnamon, one scant tablespoonful of cloves, one cup of sugar and vinegar. Cook slowly two or three hours at the side of the fire, stirring often.

Green Corn Custard. — From a newly published book of Southern recipes is taken this green corn custard with broiled tomatoes: One cupful of corn cut from the ear, four eggs slightly beaten, a little salt, paprika and onion juice, and a cupful and a quarter of milk. Mix and bake in buttered moulds set in a pan of hot water. When firm turn out on a hot platter with broiled tomatoes around, and over all a cream sauce made with a tablespoonful each of butter and flour, and one cupful of milk.

Puree of Potatoes.—Peel and wash two pounds of medium-sized potatoes, put them into a saucepan with sufficient water to cover, and a little salt, let them boil till soft, then drain off the water and cover them with a wet cloth, set the lid on the saucepan and put them into a slack oven for twelve minutes to steam. They may be cooked by steam for half an hour, which is always preferable to boiling in water. Rub them either through a sieve or pass them through the machine, and put the puree back into the saucepan; season, add a little sugar, then heat it up without boiling, stirring in half a pint of cream and two ounces of fine butter.

The Ripe Cucumber.—Ripe cucumbers make delicious sweet pickle, catsup, chowchow and other good dishes. To use them for sweet pickles, pare, seed and cut up seven pounds of them. Boil in vinegar and water half and half (after adding a little salt) until they are clear looking, but not overdone. Drain them in a colander. Then to one pint fresh vinegar add three and a half pounds of sugar and let it come to the boiling point. Add the cucumbers and scald them. Drain them again, and when cool put them in a jar with a sprinkling of stick cinnamon, cloves, allspice, mace and a few kernels of black pepper. Sprinkle also a few raisins between the layers of pickle. Then pour the juice or the syrup of vinegar and sugar over them and seal the jars. This pickle will be ready for serving in a few days. A good chowchow is made as follows: Peel enough ripe cucumbers to make three quarts when chopped. Chop fine and add one and a half quarts of white onions, also peeled and chopped. Salt the pickle to suit the taste. Put it in a coarse bag and drain it for twenty-five hours, after placing a heavy weight over it. When well drained add two ounces of white mustard seed, two finely chopped green peppers and one tablespoonful of ground black pepper. Mix all thoroughly together and add enough vinegar to cover them. Put them into a stoneware jar and add a little grated horseradish and a few nasturtium seeds. The following recipe is for an acid preserve or pickle that is well liked served with roast mutton or almost any roast: Peel firm, ripe cucumbers, remove the seeds, and cut them into slender strips about an inch wide and 3 or 4 inches long. Put them into enough cold vinegar to cover them, and let them stand twenty-four hours. Then drain them and just cover again with fresh vinegar, and to every quart of vinegar add two pounds of sugar.

The Markets.

San Francisco Produce Report.

San Francisco, October 12, 1904.

CHICAGO WHEAT FUTURES.

Wheat futures in Chicago were as follows for the week named, price being for No. 2 Red per bushel:

	Dec.	May.
Wednesday	$1 12¼@1 10⅛	$1 12⅝@1 10⅞
Thursday	1 11½@1 09⅜	1 11⅝@1 09⅝
Friday	1 09½@1 17	1 10⅛@1 08
Saturday	*——@——	——@——
Monday	1 07⅜@1 08⅞	1 08¼@1 09⅜
Tuesday	1 07⅜@1 09¼	1 07¾@1 09⅝

CHICAGO CORN FUTURES.

Prices of futures on No. 2 corn per bushel in Chicago were as follows for the week:

	Dec.	May.
Wednesday	51¾@50⅞	49⅛@48⅜
Thursday	51⅜@49¼	48⅞@46⅝
Friday	49½@48½	47 @45¾
Saturday	*——@——	——@——
Monday	47⅜@48½	45¼@46½
Tuesday	47½@48½	45⅜@46½

SAN FRANCISCO WHEAT FUTURES.

The range of values in San Francisco for No. 1 White wheat per cental was as follows:

	Dec., 1904.	May, 1905.
Thursday	$1 51½@1 49½	$1 52¼@1 51
Friday	1 49¼@1 50½	1 50⅜@1 51¼
Saturday	1 51½@1 51⅞	1 52½@1 52⅝
Monday	1 50⅝@1 51¼	1 51¼@1 52
Tuesday	1 50⅞@1 50	1 52 @1 51
Wednesday	1 50½@1 50	1 51¾@1 51¾

* Holiday.

Wheat.

Although in the Chicago market speculative values for wheat have been on the down grade the greater part of the week, tho local market for once failed to follow suit. It is a rather common occurrence for San Francisco to follow Chicago on the declines, but to remain stationary when Eastern markets are advancing. Local conditions at present are, however, quite unfavorable for tho bear interest. There is not much wheat in the State, and a considerable quantity of grain, compared with the light yield, was seriously damaged by the recent heavy rains. At this time of year large amounts of wheat are piled up, unprotected, on the banks of the navigable rivers, awaiting transportation to this city or Port Costa. It is unusual to have any great quantity of rain so early in the season, and in the past fifty years there has been no such rainfall in California prior to the middle of October as has been experienced the past few weeks. Wheat which has been exposed to the rain, and is water soaked, will be practically worthless. Some of it may be used for starch, but even for this purpose the trouble and expense in handling this wet grain makes it undesirable. The demand for wheat for starch making is limited and wet wheat will be taken only at very low prices. Considerable wheat is arriving from the North, representing purchases at tolerably stiff figures.

California Milling	$1 50	@1 62½
Cal. No. 1 shipping, alongside	1 45	@1 47½
No. 1 Oregon Club	1 45	@1 47½

PRICES OF FUTURES.

During past week the range on options was:
December, 1904, delivery, $1.49½@1.51⅞.
May, 1905, delivery, $1.50¾@1.52⅝.
Wednesday, at the forenoon session of Exchange, December, 1904, wheat sold at $1.50½@1.50; May, 1905, $1.51¼@1.51¾.

Ocean freights and prices for wheat, as compared with a year ago, are as follows:

	1903–04.	1904–05.
Liv. quotations	-s-d@-s-d	-s-d@-s-d
Freight rates	12½@15s	22@—s
Local market	$1 40@1 42½	$1 45@1 47½

Flour.

Quotable values continue in same position as for some weeks past, but offerings of desirable qualities are not particularly heavy, and on such stock buyers find it difficult to obtain material concessions. The outward movement is of fairly liberal proportions, especially to the Orient, last Friday's steamer for Asia taking 19,646 barrels, the bulk of the shipment being for Hongkong.

Superfine, lower grades	$3 25	@3 50
Superfine, good to choice	3 50	@3 75
Country grades, extras	4 25	@4 50
Choice and extra choice	4 50	@5 00
Fancy brands, jobbing	5 00	@5 25
Oregon, Bakers' extra	3 75	@4 25
Washington, Bakers' extra	3 75	@4 40

Barley.

There is no lack of demand for desirable shipping grades of the ordinary variety of barley and at fully as good figures as have been current any time this season. Three ships were the past week added to the loading fleet to carry barley to Europe, being chartered at 21s. 3d. and 22s. 6d. to Cork for orders, usual option, 6d to 9d. less if clearing direct for port of discharge. Much of the barley lately arriving shows damage from rain. Where the barley is badly wet it is difficult to dispose of at low prices, as it cannot be stored, and for immediate use is fit for little else than hog feed. There are no evidences of anything of consequence doing in Chevalier. In the speculative market trading was confined to December feed, with business light and fluctuations at a narrow range.

Feed, No. 1 to choice	$1 11¼@1 12½	
Feed, fair to good	1 07½@1 10	
Brewing, No. 1 to choice	1 12½@1 20	
Chevalier, No. 1 to choice	1 20	@1 25
Chevalier, common to fair	1 00	@1 10

Oats.

Prices for this cereal remain at about same quotable range as previously noted, the market being firm at ruling rates for good to choice oats, and strong for desirable seed oats, especially Black Russian, which are in light stock and good request. There were free receipts of milling oats from the North this week, representing prior arrival purchases.

White oats, fancy feed	$1 45	@1 47½
White, good to choice	1 35	@1 42½
White, poor to fair	1 25	@1 32½
Milling	1 42½@1 47½	
Black oats	1 25	@1 65
Red, fair to choice	1 22½@1 47½	

Corn.

Eastern product is in a little better supply and market is somewhat easier, especially for common qualities, which constitute the bulk of present offerings. Choice California Large Yellow or White would probably command an advance on extreme quotation. Small Yellow is in such light stock as to be hardly quotable.

Large White, good to choice	$1 42½@1 47½	
Large Yellow	1 42½@1 47½	
Small Yellow	1 60	@1 65
Egyptian White	——	@——
Egyptian Brown	——	@——
Eastern, in bulk	1 32½@1 42½	

Rye.

Market shows steadiness, but there is not much movement.

Good to choice	$1 35	@1 40

Buckwheat.

None on market and values in consequence poorly defined. Good to choice quoted nominally at $1.90@2.25.

Beans.

Further serious damage to beans outstanding has resulted from this week's rain. Many beans were pulled and on the ground, awaiting threshing; these were very seriously injured, if not wholly ruinod. Market for all good to choice beans is tending against buyers, but more especially is this the case with colored varieties and Limas. Tho latter are offered sparingly. Colored are in light supply.

Pea, fair to good, 100 lbs	$2 75	@3 00
Small White, good to choice	3 00	@3 15
Large White	2 30	@2 60
Pinks	3 00	@3 15
Bayos, good to choice	2 40	@2 60
Red Kidneys	4 50	@5 00
Reds	4 00	@4 50
Limas, good to choice	4 20	@4 25
Black-eye Beans	2 25	@2 50

Dried Peas.

Markot is strong for good to choice, stocks being decidedly light. Private advicos from Humboldt report the crop in that section practically ruined by rain.

Green Peas, California	2 25	@2 50
Garbanzos, Large	3 25	@3 50
Garbanzos, Small	3 00	@3 25
Niles	2 25	@——

Hops.

Stiff prices are prevailing for hops, with demand active and not many offering from first hands. At close of last week 31§c. was reported paid at Eugene, Oregon, for a fancy lot of 100 bales. Some heavy transfers were reported at Portland, with sales up to 31½c., and predictions that 35c. would be realized the current week. The Portland Oregonian has issued the following estimates of yields and requirements:

	Bales.
Oregon crop, 1904	75,000
Washington crop, 1904	30,000
California crop, 1904	60,000
New York crop, 1904	65,000
Total American crop, 1904	230,000
American consumption, 1904	210,000
American surplus	20,000
Estimated old stock	25,000
Total available for export	45,000
	Cwt.
English consumption, 1904	700,000
Total English crop, 1904	350,000
English shortage (235,000 Amer'n bales)	350,000
	Bales.
Continental exportable surplus	75,000
American exportable surplus	45,000
Total exportable surplus	120,000
England's shortage	235,000
Available from outside countries	120,000
Deficiency	115,000

The New York Producers' Price Current says: "New York State is about 60 per cent. sold out, an occurrence that has not happened in the trade for many years. Ordinarily at this season of year dealers are only beginning to look at samples, but this year buying without samples seems to be the way of trading. Reports from England indicate a very strong market, but it would appear that English dealers are neglecting their own hops, as producers are holding values at too high a figure. Choice East Kent Goldings are quoted at 220s. A very active market is reported in Germany and Austria, with prices ranging from 170 to 190 marks. The local market continues quiet but very strong."

California, good to choice, 1904 crop	28	@31

Wool.

Little doing in this center in the way of transfers from first hands, due to the fact that the wools are not here to operate upon. Market shows the same healthy condition as previously noted. Eastern and foreign advices all report current values being well maintained, and no excessive supplies anywhere.

SPRING.		
Northern, free	22	@—
Northern, defective	17	@20
Oregon, good to choice	20	@22
Nevada	15	@20
FALL.		
Northern	14	@18
San Joaquin and Southern, free	12	@15
San Joaquin and Southern, defective	8	@10
Southern lambs, as to quality	8	@14

Hay and Straw.

All the hay exposed to the late rains is in bad condition. Much of this hay is coming forward and is meeting with a weak and dragging market. All the desirable hay now offering is coming out of warehouses, and for this stock advanced prices are being asked to cover warehouse charges. The market for good to choice hay is firm at the quotations. Straw is higher.

Wheat, good to choice	$14 00	@ 15 00
Wheat and Oat	11 00	@ 14 00
Tame Oat, fair to choice	9 00	@ 13 00
Wild Oat	8 00	@ 11 00
Barley	9 50	@ 12 00
Alfalfa	8 00	@ 11 50
Compressed	13 00	@ 15 50
Straw, ₱ bale	40	@ 65

Millstuffs.

Market for Bran and Middlings remains about as last noted, stocks being principally in few hands. Bran is in much better supply than Middlings. Rolled Barley is being firmly held. Tendency on Milled Corn has been to slightly lower figures.

Bran, ₱ ton	$20 00	@ 22 00
Middlings	24 00	@ 28 00
Shorts, Oregon	21 00	@ 23 00
Barley, Rolled	23 00	@ 24 00
Cornmeal	32 00	@ 32 50
Cracked Corn	32 50	@ 33 00
Oilcake Meal	31 50	@ 33 00

Seeds.

There is considerable inquiry for Alfalfa Seed, but there is very little on the market, not enough to onable giving wholesale quotations; 16c. is being asked in a jobbing way for choice. Not much movement in Mustard Seed. Flaxseed is arriving from the North and going to the oil works on contracts.

Flax	$1 75	@ 2 25
Mustard, Yellow	3 50	@ 4 00
Mustard, Trieste	4 50	@ 5 00
		Per lb.
Canary		7 @—
Rape		1¾@ 2½
Hemp		3½@—
Timothy		5 @ 5½

Honey.

There is not much choice to select water white honey offering, and this sort is being very steadily held. Stocks of amber grades are of fair proportions and are not receiving much attention from any class of buyers.

Extracted, White Liquid	6	@ 6½
Extracted, Light Amber	5	@ 6
Extracted, Amber	4	@ 4½
Extracted, Dark Amber	3½	@ 3¾
White Comb, 1-frames	12½	@13
Amber Comb	9	@11

Beeswax.

Market is lightly stocked. Larger quantities than are offering could be readily placed at prevailing values.

Good to choice, light ₱ lb	29	@30
Dark	27	@28

Live Stock and Meats.

There is a fair demand for the best grades of Beef and market for the same is moderately firm. Common qualities are offering quite freely and are meeting with slow sale. Veal is arriving in sufficient quantity for the current demand. Values for Mutton and Lamb remain quotably about as last noted, but for other than the best the market is without noteworthy firmness. Hogs suitable for packers' need continue in good request; the demand for cutting up for immediate use is not particularly active.

Allowing for the shrinkage of about 50%, which is exacted in buying cattle on the hoof, live cattle command as much or more per pound than dressed beef, the shrinkage exacted being the slaughterers' profit.

The following quotations for beef and mutton are based on prices realized by slaughterers from wholesale dealers:

Beef, 1st quality, dressed, net ₱ lb	6	@ 6½
Beef, 2nd quality	5	@ 5½
Beef, 3rd quality	4	@ 5
Mutton—ewes, 6½@7c; wethers	7	@ 7½
Hogs, hard grain, 140 to 200 lbs	4¾	@—
Hogs, large, hard, over 200 pounds	4½	@ 4½
Hogs, small, fat	4½	@ 4¼
Veal, large, ₱ lb	7	@ 8
Veal, small, ₱ lb	8	@ 9
Lamb, spring, ₱ lb	8	@ 8½

Hides, Skins and Tallow.

Values for hides are being well maintained at the quoted range, with demand good. Pelt market is showing steadiness. Tallow is being shipped out in considerable quantities, mostly to Central America.

Nothing but select hides, clean and trimmed will bring full figures. Culls of all kinds, either from grubs, cuts, hair slips, side brands or murrain, are not always readily placed at the lower figures.

	Sound.	Culls.
Heavy Steers, over 56 lbs	— @10	— @ 9½
Medium Steers, 48 to 56 lbs	— @ 9½	— @ 9
Light Steers, under 48 lbs	— @ 9	— @ 8½
Heavy Cow Hides, over 50 lbs	— @ 9½	— @ 8½
Light Cow Hides, under 50 lbs	— @ 9	— @ 8½
Stags	— @ 7	— @ 6
Wet Salted Kip	— @10	— @ 9
Wet Salted Veal	— @11	— @10
Wet Salted Calf	— @11½	— @10½
Dry Hides	16½@17	15½@16
Dry Kip and Veal, 11 to 16 lbs	13 @14	12 @13
Dry Calf, under 4 lbs	— @19	— @17
Pelts, long wool, ₱ skin	1 00@1 50	
Pelts, medium, ₱ skin	70@ 90	
Pelts, short wool, ₱ skin	40@ 60	
Pelts, shearling, ₱ skin	15@ 30	
Horse Hides, salted, large prime, each	2 75@—	
Horse Hides, salted, medium	2 50@—	
Horse Hides, salted, small	2 00@—	
Horse Hides, dry, large	1 75@—	
Horse Hides, dry, medium	1 50@—	
Horse Hides, dry, small	1 00@—	
Tallow, good quality	4 @4½	
Tallow, poorer grades	2½@3½	

Bags and Bagging.

Same inactity previously noted is prevailing in the bag market. In quotations, representing asking prices, there are no changes to record.

Bean Bags	$ 4¾@5
Fruit Sacks, cotton	6½@7½
Fruit Sacks, jute, as to quality	5¾@7
Grain Bags, Calcutta, 22x36, spot	5 @5¼
Grain Bags, San Quentin, ₱ 100	4 50 @—
Wool Sacks, 4-lb	32 @—
Wool Sacks, 2¼-lb	30 @—

Poultry.

Market for Young Chickens was in generally botter condition than previous week, imported stock being in lighter receipt. Large and fat Hens were in good request. Market for choice Turkeys showed firmness, although demand was not active. Ducks and Geese in prime condition were not neglected. Market for Pigeons was firmer for Young.

Turkeys, Young, ₱ lb	$ 18	@ 22
Turkeys, live gobblers, ₱ lb	14	@ 15
Turkeys, live hens ₱ lb	15	@ 16
Hens, California, ₱ dozen	4 50	@ 5 00
Hens, large	5 00	@ 6 00
Roosters, old	4 50	@ 5 00
Roosters, young (full-grown)	4 50	@ 5 50
Fryers	4 00	@ 4 50
Broilers, large	3 50	@ 4 00
Broilers, small to medium	2 50	@ 3 50
Ducks, old, ₱ dozen	4 50	@ 5 00
Ducks, large young, ₱ dozen	4 50	@ 6 00
Geese, ₱ pair	1 50	@ 1 75
Goslings, ₱ pair	1 75	@ 2 25
Pigeons, old, ₱ dozen	1 25	@ ——
Pigeons, young	2 00	@ 2 50

Butter.

For fancy fresh as high as 31c was asked, but there was much fresh butter, which was by no means of poor quality, going bogging for custom at materially lower figures. Trade is largely on cold storage holdings, owners being anxious to realize, believing there will be no more favorable opportunity.

Creamery, extras, ₱ lb	29	@30
Creamery, firsts	26	@28
Creamery, seconds	22	@24
Dairy, select	25	@27
Dairy, firsts	23	@24
Dairy, seconds	18	@20
Mixed Store	14	@—

Cheese.

Market is firm for choice to select new flat, stocks of this sort being light. Young Americas are in sufficient supply for the immodiate demand at full current figures. Eastern cheese is in fair demand and is being steadily held.

California, fancy flat, new	10½@11
California, good to choice	9½@10
California, fair to good	9 @ 9½
California, "Young Americas"	10 @11
Eastern	10 @13

Eggs.

Receipts of fresh are of fair average proportions for this time of year, but it is the exception where tho eggs are uniformly large and white as well as strictly fresh. Such command good prices. Irregular sizes and mixed colors are not eagerly sought after. Buyers content with other than fancy fresh are running mainly on cold storage or Eastern eggs.

California, select, large, white and fresh	30 @—
California, select, irregular color & size	32½@37½
California, good to choice store	27½@32½
Eastern firsts	24 @26
Eastern seconds	21 @23

Vegetables.

Market for most kinds of fresh vegetables showed more firmness, owing to a material decrease in receipts. Tomatoes in prime to choice condition were a rather scarce article. Green Corn was mostly under choice. Onions were offering less freely, and at figures less favorable to buyers than prevailed the previous week.

Beans, Lima, ₱ lb	3½@	5
Beans, String, ₱ lb	3 @	4
Beans, Wax, ₱ lb	3½@	5
Cabbage, choice garden, ₱ 100 lbs	75 @	1 00
Corn, Green, ₱ crate	75 @	1 25
Cucumbers, ₱ box	30 @	60
Egg Plant, ₱ box	40 @	65
Garlic, ₱ lb	4 @	4½
Okra, Green, ₱ box	40 @	60
Onions, Yellow Danver, ₱ ctl	1 15 @	1 30
Peas, sweet garden, ₱ lb	3 @	4
Peppers, Green, ₱ box	35 @	60

Summer Squash, ₱ box	40	@	75
Tomatoes, box	20	@	50

NOTE.—Large boxes are what are known to the trade as "pay boxes," which have to be returned or paid for. They are open top, with hand holes in the ends, and weigh when filled from 50@60 lbs gross. Small boxes are free boxes, about the same as the regular fruit box, weighing when full from 20 to 30 lbs. gross.

Potatoes.

Arrivals of potatoes aggregated tolerably heavy for the week, and with the demand light and mostly local, the market was without special firmness, particularly for the ordinary run of offerings. Choice to select Burbanks were in the main steadily held. Sweets were not in heavy receipt, but stocks were ample for the demand, and prices were without quotable improvement.

Salinas Burbanks, ₱ cental	1 00	@	1 35
Potatoes, white, ₱ cental	60	@	75
Sweet Potatoes, ₱ cental	1 00	@	1 20

Fresh Fruits.

The recent heavy rains have caused a great decrease in the receipts and offerings of fresh fruit, the market having much the aspect now that it ordinarily wears a month or two later. Values for Apples are without quotable change, but choice to select are being quite steadily held, and are expected to soon receive more attention, owing to other deciduous fruits rapidly disappearing. Bartlett Pears are offering out of cold storage, but there are none arriving from the interior. Winter Nelis and cooking Pears are in fair receipt, with no very active movement in either, although choice Winter Nelis bid fair to sell well a little later on. Peaches are nearly out, and those now on market are mostly under choice. In the way of Plum's, Coe's Late Red make a fair showing, but are not very actively sought after. Melons of all kinds were held about as last quoted, although the demand was limited and the market for the general run of offerings could not be termed firm. Grapes were mostly rain-damaged and moved slowly at generally low figures. Berries were in light receipt and for such as were in prime condition materially higher prices were realized than last quoted.

Apples, fancy, ₱ 50-box	1 35	@	1 50
Apples, good to choice, 50-lb. bx	1 00	@	1 25
Apples, fair to good, ₱ box	65	@	1 00
Cantaloupes, ₱ crate	75	@	1 25
Grapes, ₱ box or crate	30	@	75
Grapes, large open boxes	75	@	1 25
Huckleberries, ₱ lb	9	@	10
Nutmeg Melons, ₱ box	40	@	65
Peaches, ₱ small box	40	@	75
Pears, Winter Nelis, ₱ box	75	@	1 25
Pears, Cooking, ₱ box	40	@	65
Persimmons, ₱ regular box	75	@	1 00
Plums, Coe's Late Red, ₱ box	40	@	75
Pomegranates, ₱ small box	40	@	65
Pomegranates, ₱ large box	1 00	@	1 50
Quinces, ₱ box	35	@	60
Raspberries, ₱ chest	4 00	@	6 00
Strawberries, Longworth, ₱ chest	6 00	@	8 00
Strawberries, large, ₱ chest	4 00	@	7 00
Watermelons, ₱ doz	1 00	@	3 00

Dried Fruits.

The market for cured and evaporated fruits is showing as a whole fully as healthy condition as at date of last review. While there is no active wholesale purchasing, this is largely due to absence of noteworthy offerings of most kinds from first hands. The firmness of the market is most pronounced on Apricots, Pears, Peaches and Nectarines, there being no heavy quantities of either sort seeking custom. Choice to fancy Pears are especially in limited supply. There are few Pitted Plums in stock; buyers in quest of choice would find it difficult to purchase at current quotations. The Apple market is quiet and easy in tone, in sympathy with conditions East. Figs are in fairly liberal supply and for ordinary qualities the market presents an easy tone, the demand for other than choice to select not being urgent. The Prune market is firm for large and steady for the other sizes, with a fairly active movement. There are not enough 30–40 Prunes to warrant regular quotations; they would command 5c. or more, particularly if choice and attractive. The steamer Abydos, sailing Oct. 7, took 532,975 lbs. Prunes for Germany, and the steamer City of Sydney took 34,672 lbs. for same destination. The steamer Queen, for British Columbia, carried 22,000 lbs. assorted dried fruits, and the steamer Siberia, for Asia, carried 26,700 lbs. assorted.

EVAPORATED OR BLEACHED.

Apples, 50-lb boxes, rings, pressed, good to choice	5½	@	6
Apples, extra choice to fancy, 50-lb boxes	6	@	6½
Apricots, Moorpark	8	@	10½
Apricots, Royal, good to choice, ₱ lb	7½	@	8½
Apricots, Royal, fancy	9	@	10
Figs, 10-lb box, 1-lb cartons	50	@	65
Nectarines, Red, ₱ lb	5	@	6
Nectarines, White and Yellow	5½	@	6½
Peaches, unpeeled, good to choice	6½	@	7½
Peaches, unpeeled, fancy to extra fancy	8	@	8½
Pears, standard, ₱ lb	6½	@	7
Pears, choice to fancy	8	@	10
Plums, Black, pitted	5½	@	6½
Plums, Red, pitted	6½	@	8
Plums, Yellow, pitted	6½	@	7½
Prunes, Silver, good to fancy	4	@	7½

Prunes, in bags, 4 sizes, 1¼@1½c; 40–50s, 3¾@4c; 50–60s, 2½@2¾c; 60–70s, 2@2¼c; 70–80s, 1½@1¾c; 80–90s, 1@1¼c; 90–100s, ¾@⅞c; small, ½@⅝c.

COMMON SUN-DRIED.

Apples, sliced	3½	@	4½
Apples, quartered	3½	@	4½
Figs, White, in bulk	2	@	2½
Figs, Black	2½	@	4

Raisins.

This year's Raisin pack will be light, probably less than half the quantity of last season, owing to great damage by the unprecedentedly heavy rains for September and October. Market is firm, with prospects of ruling higher, especially for best qualities. There is a fairly active outward movement, both by sea and rail.

CROP OF 1904.

(Fresno delivery except otherwise specified,)

London Layers, 2-crown, 20-lb box	87½	@	—
London Layers, 3-crown, 20-lb box	90	@	—
Fancy Clusters, 4-crown, 20-lb box	1 35	@	—
Dehesas, 20-lb box	1 85	@	—
Imperials, 20-lb box	2 25	@	—

2-Crown Standard loose Muscatel....2¾c
3-Crown Standard....3¼c
4-Crown Standard....4 c
Seedless Thompsons....4¼c
Seedless Sultanas....3¼c
Fancy, 16-oz. Seeded....5½c
Choice, 16-oz. Seeded....4¾c
Fancy, 12-oz. Seeded....4¾c
Choice, 12-oz. Seeded....3½c
Bleached Sultanas, Woodland Dist., 50's....3½@5c
Bleached Thompsons, Woodland Dist., 50's....4½@8c

Citrus Fruits.

A very quiet market has been experienced the current week for citrus fruits of all kinds. Oranges are not in large supply and are being steadily held. Quotable values for Lemons are without special change, but full figures are not readily realized, especially for other than most select. New crop Grape Fruit to the extent of two boxes arrived from Oroville. Limes are offering at a decline of 50c per case.

Oranges, Valencias, ₱ box	1 50	@	3 50
Lemons, California, select, ₱ box	2 75	@	3 25
Lemons, California, good to choice	2 25	@	2 75
Lemons, California, fair to good	1 25	@	2 25
Grape Fruit, ₱ box	2 50	@	3 50
Limes, Mexican, ₱ box	4 00	@	4 50

Nuts.

In the Almond market there are no new developments to note; choice are being firmly held, but there are a good many defective nuts this season and these are moving slowly. Deliveries of new crop Walnuts are expected the coming week. Although there is a heavy yield, most of the crop has been disposed of through orders booked early in the season.

Chestnuts, Cal., ₱ lb	10	@	12½
Nonpareil Almonds	13	@	16
I X L Almonds	12½	@	14
Ne Plus Ultra Almonds	12	@	13
Languedoc Almonds	9½	@	10½
Peanuts, fair to prime	5	@	6
Cal. Walnuts, No. 1 soft shell	11	@	—
Cal. Walnuts, No. 2 soft shell	9	@	—
Cal. Walnuts, No. 1 hard shell	10½	@	—
Cal. Walnuts, No. 2 hard shell	8½	@	—

Wine.

The market for dry wines is showing a firm tone, in consequence of the heavy quantities of this season's grapes which have been ruined by the recent rains. All the dry wine grapes which were on the vines during this week's storm are practically a total loss, and thousands of tons were exposed. In Napa county most of the grapes were saved, but in most other dry wine sections large quantities remain ungathered and will not pay for the picking. The loss of sweet wine grapes, while considerable, was not nearly so heavy as of dry wine stock. Most of the sweet wine grapes were gathered, and those remaining unpicked will not prove a total loss. Dry wines of 1903 remain quotable at 15@18c. per gallon, but higher prices are looked for. Sweet wine market is without improvement, 30c. per gallon for 1903 vintage being the price at the wineries. The steamer City of Sydney, sailing Saturday last, carried 148,065 gallons and 46 cases, including 139,894 gallons for New York. Receipts of wine at San Francisco last week were 252,050 gallons, and for preceding week were 283,130 gallons.

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Produce Receipts.

Receipts and exports of leading cereals and other California products for the past week and for the season to date, as compared with the corresponding time the previous year, are as follows:

FOR THE WEEK.		Since July 1, 1904	Same time last year.
Flour, ¼ sks	127,986	1,383,343	1,759,667
Wheat, ctls	91,822	808,905	701,044
Barley, ctls	122,248	1,076,738	2,408,272
Oats, ctls	31,558	351,639	437,634
Corn, ctls	3,753	25,157	45,697
Rye, ctls	456	18,462	21,983
Beans, sks	21,181	82,748	151,388
Potatoes, sks	30,130	344,754	347,260
Onions, sks	4,620	48,347	57,621
Hay, tons	4,591	69,713	74,742
Wool, bales	5,025	22,838	19,617
Hops, bales	4,700	13,776	12,556

EXPORTS BY SEA.

FOR THE WEEK.		Since July 1, 1904	Same time last year.
Flour, ¼ sk	67,028	1,000,152	1,232,892
Wheat, ctls	233	64,922	290,191
Barley, ctls	71,106	503,557	1,886,953
Oats, ctls	1,186	6,148	8,369
Corn, ctls	816	7,624	5,219
Beans, sks	585	22,503	10,956
Hay, bales	7,137	47,416	50,172
Wool, lbs		741,504	1,358,158
Hops, lbs	1,880	56,482	215,747
Honey, cases	29	448	898
Potatoes, pkgs	1,389	29,366	23,648

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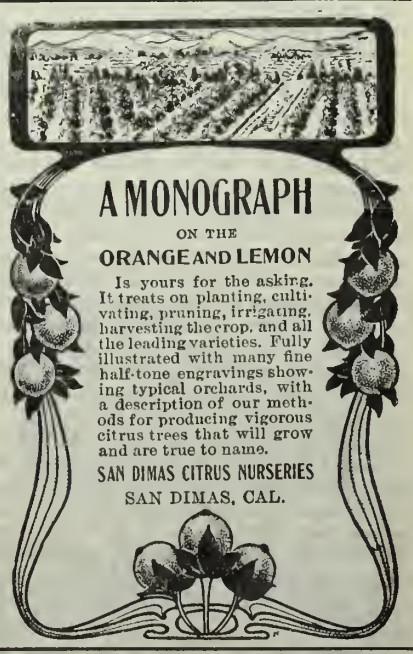
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Patrons of Husbandry.

Tulare Grange.

To the Editor:—Tulare Grange held its regular semi-monthly meeting on Saturday, October 1st. There was a good attendance, a good social meeting and an excellent luneh.

Two applieations for the degrees were reported favorably on and the eandidates were duly elected.

The eommittee to whom was referred the communieation from the Audubon Society of Southern California, consisting of Bro. Barber and Sisters Zartman and Hamilton, asked for further time for investigating and were granted it.

The Worthy Master read the report he will make to the State Grange for the past year.

The Seeretary read the program of the State Farmers' Institute to be held in Berkeley on October 25, 26 and 27.

It was agreed that the short eourse in agrieulture, eommeneing on the 11th inst., and the coming State Farmers' Institute are both of mueh importance, and will make a new era in agrieultural education in California.

The literary exercises of the day were opened by an appropriate and thoughtful paper, read by Sister C. P. Styles, on "What constitutes the essential features inside the ideal home?" The diseussion was opened by Sister C. P. Styles. She reasoned that the number of rooms or their elaborate finishing or furnishing do not, by any means, constitute the essential features of the ideal home—the most important feature is the family oeeupying it. A family is essential to the ideal home. The several members of the family should have due regard for each other, each one should be careful to do his or her own part and children should have their parts and be required to do them. It is the watchful eare of the parents and the loving obedienee of the children that make the inside features of the ideal home, from the humblest eottage to the most elaborate dwelling in the land.

The consideration of the proposed eonstitutional amendments was referred to the State Grange, convened in Oakland Tuesday, Oetober 4.

Co-operation.—Three questions were drawn from the question box: "In what way ean the farmers eo-operate to sell their erops?" This is a puzzler. It was acknowledged by all that the prosperity of the farmer depends upon a eertainty of eompensation for his time and labor expended and for his capital invested, and this eompensation ean only be seeured by eo-operation in sales. How is this co-operation to be efieeted? "That's the rub." It seemed to be admitted that no co-operation can be effected but by the full union of every one engaged in the business, nor then until every one sinks his individuality in the union. If any refuse to eo-operate, beeause his plan is not adopted or beeause some other one's plan is, or some other one is plaeed in trust, the attempt will be a failure. No eo-operation ean be effeetive without eaeh and every one sinks his individuality and his individual views and allows them to be absorbed in the whole. Until this is done by eaeh and all no eo-operation will be effeetual or lasting and any one who refuses to eo-operate in this way is an enemy to co-operation. It was also agreed that eo-operation on a large seale can best be effected by smaller co-operations, after they have learned the work ineidental to their associations, and after they have trained their agents in their business—then associating themselves in a larger, and ultimately into one large, association. The question is still a debatable one. No satisfactory answer has been reeeived.

Important.—"What is the most important question before the farmers at the present time?" The Worthy Master deelared the subjeet just discussed was the most important one, outweighing transportation, irrigation, seasons and every other single subjeet.

Soil Water.—"How can we know whether the water level has fallen?" The obvious answer to this is by observation and reeord, still the subjeet is getting to be one of a great deal of interest—for every season more and more dependenee for irrigation water is being plaeed on the underground flow. It was agreed that in this seetion the water level has raised and this is shown by the level of water in our wells and by the ranker and greener growth of vegetation. However, this has referenee to the water flow next to the surface, the water in quantities sufficient for irrigation purposes eoming from lower strata. The impression seemed to prevail that the substratum flow, whieh furnishes the irrigation supply of water, is falling off, but will be restored by heavier winter rains.

The subjeet for next meeting is: "Is all the water of this eounty, appropriated for irrigation purposes, put to a beneficial use? If it is not, how ean it be done?" To be answered by Bro. T. B. Twaddle. J. T.

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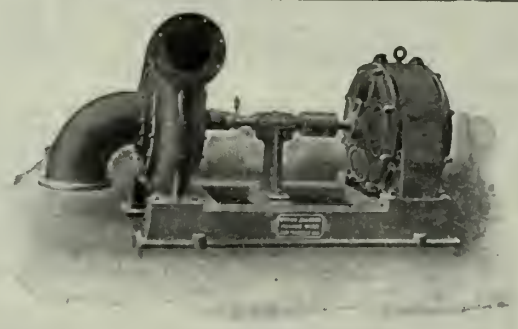
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to the paying level — squeeze the last drop of cream out of milk—make dairying pay. Tubulars are the only modern separators. The picture shows them. Write for catalogue G-131.

The Sharples Co. Chicago, Ill. P. M. Sharples West Chester, Pa.

THE POULTRY YARD.

California Poultry Growing.

By Mr. L. C. Byce of Petaluma, for the California Promotion Committee.

So much has been said and written about the different methods in vogue in California to that employed by our Eastern friends, one would imagine that none but a native Californian could raise poultry in this State.

The difference lies simply in conforming to local conditions and not that the care and routine of feeding is on entirely different lines. In the East where the thermometer drops way below zero, houses must be provided to protect the fowls from the severe frosts and only when such houses are warm (oftentimes being artificially warmed) and supplemented by bountiful feeding, are eggs produced in the winter time.

Just at the time in the year when an Eastern man is studiously planning to protect his fowls from the inclement weather, do the copious rains of California descend, starting the tender shoots of grass, and as the fowls have completed moulting, with proper feeding, egg production is a natural consequence. This continues under wise care and management during the months when the Eastern poultryman is obliged to provide against the drinking water being frozen into solid cakes of ice, and many times to shovel paths through the snow to reach his chicken houses, while the California poultryman is pursuing the even tenor of his way and gathering in his crop and disposing of them at good prices, large quantities of which are shipped to Eastern cities to supply the demand during long continued periods of low temperature.

The Easterner may be able to make reasonable comparisons of the advantages the California poultryman labors under in performing his work in the actual care of fowls when it is stated that the fowls are allowed to roam at large over the fields or in the sometimes more prescribed limits at all times in the year, the rains keeping them within doors only at short intervals, between which there is much of the entire year.

On account of the favorable climatic conditions the average egg production of a flock of well-kept fowls is greater than in the East. Poultry raising is conducted on a more extensive scale in some localities in this State than others, but it is not so much due to more favorable conditions as to the local fostering influences. Most of the valleys and hillsides of California are adapted to profitable poultry raising.

The class of houses are not of the expensive kind. Many of those who have made, and are making, money, use cheaply constructed chicken houses, the cracks not even being battened, although the writer, as well as many poultrymen, favor a good tight house, properly ventilated, for in this State, as in colder countries, the better protected our fowls are the less food will be required to keep up the animal warmth, and all food consumed, over and above meeting that requirement, is converted to eggs. It can therefore be readily understood that a California hen will produce more eggs for the same consumption of food than hens in a rigorous climate.

The Easterners, acquainted with Eastern methods of feeding and caring for fowls, make ideal California poultrymen as soon as they acquire an intelligent comprehension of local conditions, such as influence of climate, housing and feeding according to methods employed here. The differences are not great, but are all in favor of California, when the annual account is made up.

A gentleman in one of the prominent poultry sections writes me as follows: "We consider there is more profit in keeping twenty-five hens than one cow. We do not make $5 from one hen, but we do clear from $1.50 to $2.50 per hen per year." How many men have I heard exclaim, "If it had not been for my chickens I would have run behind," and dairymen also say "I make more money out of my hens than I do the cows."

Now to illustrate. In my own neighborhood, neighbor No. 1 keeps twenty cows and 500 hens, he says: "The hens beat the cows all hollow." His profit on the hens last year was $800. No. 2 has fifteen acres of land, a family of four, keeps 500 hens, lives and dresses well, has money to spend, rides in his carriage and enjoys life well. No. 3 does not make an exclusive business of poultry, but keeps a flock of 300 hens and they cleared him $500 last year. A gentleman in another section of the country sends the writer the following data as to his operations for one year with a flock of 500 hens:

Sold 5291 dozen eggs at 28 cents per dozen	$1,481 50
Sold 150 hens at $6 per dozen	75 00
Sold 18 dozen broilers, $4 50 per dozen	81 00
Increased flock 100 pullets, $7.50 dozen	58 35
Gross receipts	$1,695 85
Cost of feed for the year	700 00
Net profit	$ 995 85

There are hundreds of such illustrations as those above given, demonstrating the oft repeated statement, which is a fact beyond any question, that California is the poultryman's paradise. The writer has not made any reference to the great number of poultrymen who have from 5000 to 7000 laying hens, preferring to speak only of those of moderate size flocks such as anyone can care for without hiring help. A specific feature which frequently astonishes many an Eastern man is that such large flocks can roam at will, mingling together with perfect immunity from disease. On account of the favorable climatic conditions, the pure air of California and the inexpensive methods of housing, the largest ratio of profit is insured to the poultryman who engages in the industry here.

Who is Macbeth? The maker who isn't afraid of his lamp-chimneys.

The Index tells you, in ten minutes, all you need to know for comfort with lamps and the saving of chimney-money; sent free; do you want it?

Macbeth, Pittsburgh.

Poultry Ought to Be Worth Something.

Now that Thanksgiving is approaching, Eastern poultry merchants are already on the lookout for stock. Two months is nearly the time limit for getting and filling Thanksgiving orders. According to the National Provisioner, a careful survey of the field fails to find a plentiful supply of birds. Good poultry will not be plentiful enough to go around at reasonable figures. Farmers have sold their grain at good prices and have not bothered to fatten their turkeys, geese, ducks and chickens. In fact, the farms show a smaller supply of all poultry as compared with two years ago. High prices of meats have increased the ever popular taste for poultry and have kept the price and the demand at the top notch. This has served to keep chickens and other birds from coming to market. That largely accounts for the present scarcity. The demand has been so brisk and the prices so well maintained at the farm that almost anything brought relatively good prices. That may account largely for the negligence or lack of feeding at the farm. The fact exists that poultry of all kinds is scarce and the price will be pretty stiff for the Thanksgiving trade. Prime birds will, in the language of the Southern farmer, "go 'way yonder." This is likely to enhance the already high price of veal, pork and lamb roasts. Finished turkeys and geese will be very high if the demand is at all strong for them.

Of course if the Eastern districts have less to send to this coast the chance for the local product will be greatly improved.

GONE LAME!!



Those words strike terror to the heart of every horseman. Don't worry. If the **Spavin, Ring Bone, Splints, Curb** or any form of **Lameness, Kendall's Spavin Cure** will cure it quickly and permanently.

Cambridge Springs, Pa., Dec. 4, 1902.
American House Livery,

Dr. B. J. Kendall Co.,
Gentlemen:—I have been using your Kendall's Spavin Cure **for fifteen years** and find it a success. I have one of your old "Treatise on the Horse and his Diseases," the leaves are some of them lost; if you have any new ones please send me one, and oblige.
Very truly yours,
CHAS. KELLY.

Price $1; 6 for $5. As a liniment for family use it has no equal. Ask your druggist for **Kendall's Spavin Cure,** also **"A Treatise on the Horse,"** the book free, or address

Dr. B. J. KENDALL CO., ENOSBURG FALLS, VT.

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It relieves and cures **Spevins, Ring Bone, Cockle Joints, Scratches, Grease Heel, Founder, Sore Backs and Shoulders, Bruises, Wire Cuts, Collar and Saddle Galls, Pneumonia, Distemper, Chaled Pieces,** etc. Used and endorsed by Adams Express Co., Chicago Fire Department and others. **Tuttle's American Worm Powders** never fail. **Tuttle's Family Elixir** stops the pains and aches of mankind instantly. Our 100-page book, "Veterinary Experience" free.

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Glenn County, - - California.

FOR SALE IN SUBDIVISIONS.

This famous and well-known farm, the home of the late Dr. Glenn, "the wheat king," has been surveyed and subdivided. It is offered for sale in any sized government subdivision at remarkably low prices, and in no case, it is believed, exceeding what it is assessed for county and State taxation purposes.

This great ranch runs up and down the west bank of the Sacramento river for 15 miles. It is located in a region that has never lacked an ample rainfall, and no irrigation is required.

The river is navigable at all seasons of the year, and freight and trading boats make regular trips.

The closest personal inspection of the land by proposed purchasers is invited. Parties desiring to look at the land should go to Willows, California, and inquire for P. O. Eibe.

For further particulars and for maps, showing the subdivisions and prices per acre, address personally or by letter,

F. C. LUSK,

Agent of N. D. Rideout, Administrator of the Estate of H. J. Glenn at Chico, Butte County, California

NOTICE!

I NOW OFFER:

452 Acres fine land near Lindsay, Tulare County, for sale or exchange for Santa Clara County land; price $30 per acre, including improvements costing $6000.

2000 Acres stock, dairy or vegetable land, the very choicest and best bargain in the State, 20 miles from San Francisco, near Half Moon Bay; price only $12 per acre. Much of the land is valuable; two large, running streams through the tract.

Full particulars of JOHN F. BYXBEE, Palo Alto, Santa Clara County, California.

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FRUIT MARKETING.

French Walnut Crop.

Report of Victor H. Morgan, Vice-Consul General, Marseilles, Sept. 14, 1904.

Advices which have reached me indicate that this year's walnut crop will be early, the fruit being already almost ripe. Its color, however, will depend upon weather conditions during the latter part of this month. While the kernels promise to be healthy, the total yield will be small, the prolonged dry weather having caused a great falling of the nuts. It is estimated that the total quantity available for exportation to the United States will not exceed 12 000 bales.

At this moment these are expected to be procurable at points of cultivation at from 80f ($15.44) to 85f ($16.40) per 100 kilos (220 pounds). The crop of small walnuts, on the other hand, will be abundant, and the Charbertes shelled are expected to open at 120f ($23.16) per 100 kilos (220 pounds) at place of growth.

The following freight rates are quoted to me on walnuts from this port to New York: Walnuts in shells, 35s ($8.51) per ton; walnuts shelled, 30s ($7.50) per ton; loading charges, 1f (19.3c) per ton extra.

Malaga Raisin Market.

Report of D. R. Birch, Consul, Sept. 12, 1904.

The first sales were made last week and the season has begun. Exporters say that the crop will scarcely reach 80,000 boxes, of twenty-two pounds each, and that the fruit will run to smaller sizes. This is below that of last year, when 110,000 boxes were marketed. The shortage is due to unusually hot weather during the summer months. During the last few days of August, when early sales were made by growers to local exporters, the first cost prices for the principal grades were as follows:

Imperial clusters, 20 pesetas; Connoisseur clusters, 9 pesetas; Dessert clusters, 13 pesetas; loose Muscatels, 5 crowns, 12 pesetas; loose Muscatels, 3 crowns, 7 pesetas; Royal clusters, 15 pesetas; Cabinet clusters, 7.50 pesetas; London layers, 6.50 pesetas; loose Muscatels, 4 crowns, 9 pesetas; loose Muscatels, 2 crowns, 5.75 pesetas. (The peseta is worth 14c American.)

The price of Connoisseur clusters and the three lower grades of loose Muscatels is rising rapidly, the first cost of the loose raisins at this writing being two pesetas per box higher than the above quoted prices. The first consular invoices of raisins show sales last week of Dessert clusters at $2.50 per box, cost and freight, New York, and Connoisseur clusters at $1.50 per box. A shipment will be made to-morrow at the following prices, cost and freight, Chicago: Imperial clusters, $3.50 per box; Dessert clusters, $2.25 per box; Connoisseur clusters, $1.75 per box.

Diseases of Plants.

One of the most elegant and interesting contributions to the literature of the above subject is a Government publication by the Department of Agriculture, Sydney, New South Wales, entitled, "Letters on Diseases of Plants," by Dr. N. A. Cobb, who is one of the most effective investigators and writers on this subject in the world. His work is of great value, not only to Australians, but to fruit growers everywhere. The Government price for the publication is 2s. and W. A. Gulick, Sydney, is the Government printer.

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HOLSTEINS—Butter bred working herd. Herd established 1885. Winners over Jerseys, of every Butter Contest at State and County Fairs—Holsteins whose sires and dams were bred by me WON EVERY PRIZE at last State Fair (1903). Young stock for sale. Send for catalogue. Est. of W. H. Howard, 206 Sansome St., San Francisco.

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A.J.C.C. JERSEYS. Service bulls of noted strains. Joseph Mailliard, San Geronimo, Marin Co., Cal.

BULLS—Devons and Shorthorns. All pure bred and registered. Fine individuals. At prices to suit the times, either singly or in carload lots. Oakwood Park Stock Farm, Danville, Cal.

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LAY LIKE LEGHORNS.
LARGER THAN PLYMOUTH ROCKS.

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Eggs $3 and $5 per set; $15 per 100. Stock for sale.
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MUST HATCH INCUBATOR CO.,
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about 500 young Shropshire Ewes
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about 25 young Poland-China Sows.
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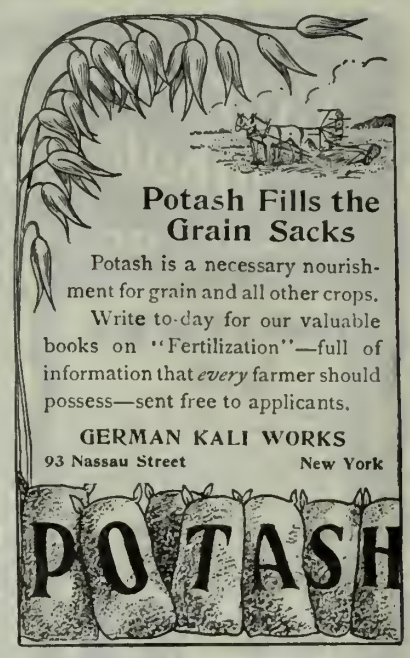
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Caustic Potash Whale-Oil Soap No. 3.
Endorsed by U. S. Dept. of Agri. and State Experiment Stations. This soap is a Fertilizer as well as an Insecticide. 50-lb. kegs, $2.50; 100-lb. kegs, $4.50; half barrel, 270 lb., 3¾c per lb.; barrel, 425 lb., 3¼c. Send for booklet. JAMES GOOD, Original Maker.
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HOME OF THE PRIZE-WINNING HERD OF SHORTHORNS.



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Alfalfa Without Irrigation.

J. W. Snowball, one of the pioneer residents of Grafton, Yolo county, writes the Woodland Mail as follows: "I see occasionally in the county papers accounts of large yields of produce from our rich Yolo county land, and have concluded to tell a story myself of wonderful productiveness of our soil, and for fear some people may be incredulous and think it a big yarn, I can only say to such, come over and see for themselves and interview the man that gathered and housed the crop.

"I have a small field of six acres that I planted to alfalfa in April, 1903, and this year I have cut and harvested four crops of hay from it. The first was cut about the middle of May and yielded fourteen large two-horse wagon loads of over a ton to the load; the second crop was cut about June 20th and yielded eleven tons, large tons at that; the third cutting was done July 30th, and yielded nine tons, and I have to-day finished hauling the fourth cutting and put in eight large two-horse wagon loads in the barn, making forty-two full tons of hay from six acres of measured land, or seven tons to the acre, and from appearances I shall have another crop to cut before frost comes, from this land.

"I attribute the large and fine stand of alfalfa on this land to the fact that I have never pastured the land. There is not a sign of foxtail or any other grass in the field, no bare spots, a perfect, uniform stand of alfalfa. It has never had any irrigation except the rains from Heaven It is situated on the Sacramento river where, when the river is high in the spring and winter, it gets sub-irrigation. The water, say four months in the year, stands from 1 to 2 feet below the surface and never over 10 feet to water.

"I find that alfalfa in our dry summer climate will not bear tramping and pasturing with stock, especially during the spring season when the ground is soft; this pasturing bringing foxtail and other foul growth, which in time will kill out the alfalfa and render it unprofitable."

Irrigation Reports Available.

To the Editor: — Under separate cover I am sending you a copy of Bulletin No. 145 on preparing land for irrigation and methods of applying water. It is the first of a series to be issued by Irrigation and Drainage Investigations of the Office of Experiment Stations under the co-operative arrangement which was made with the State of California about eighteen months ago. Four thousand copies have been sent to this office for distribution in California, and any one desiring a copy may receive one on request Kindly call the attention of your readers to this fact in order that they may receive their share of the allotment.

The main purpose of the pamphlet, as you will note in glancing over it, is to assist the new settler on an irrigated farm. On account of its practical character, the large number of illustrations and the descriptions and comparisons of a number of different methods of applying water, it is hoped that it will also prove useful to the skilled irrigator.

Other publications belonging to the same series are being prepared and will be ready for distribution early in 1905. These will include bulletins on the distribution and use of water in the Modesto and Turlock irrigation districts; on the pumping plants of California and the duty of water under them; on irrigation methods in Imperial valley, and on the results of tank experiments in irrigation at Calexico, Pomona, Tulare, Berkeley and Chico.

S. Fortier,
Irrigation Engineer in charge Pacific District.
University of California, Berkeley.

New Patents.

Dewey, Strong & Co.'s Scientific Press Patent Agency, 330 Market St., S. F., has official reports of the following U. S. patents issued to Pacific coast inventors:

FOR WEEK ENDING SEPTEMBER 20, 1904.

770,250.—Collar—Alkus, Sinclair & Krizbaum, Oakland, Cal.
770,669.—Book Clamp.—J. N. Bostick, Fresno, Cal.
770,672.—Cultivator—J. L. Buckingham, Laton, Cal.
770,562.—Wearing Apparel—Alice H. Dessart, Nogales, Ariz.
770,428.—Smudge—E. J. Griffitbs, Los Angeles, Cal.
770,359.—Gas Meter.—A. Henning, S. F.
770,465.—Steam Dome — C. A. Huffmaster, San Leandro, Cal.
770,298.—Hand Brake—Maguire & Young, Reno, Nev.
770,378.—Electric Switch—Mehrten & Howard, Exeter, Cal.
770,474.—Spoke Puller—A. K. Olsen, Hubbard, Or.
770,476.—Butter Cutter—R. Pozzi, Marysville, Cal.
770,508.—Interlacing Machine—A. E. Sexton, Los Angeles, Cal.
770,446.—Adding Machine—A. P. Simpson, Sacramento, Cal.
770,328.—Disk Harrow—G. Smith, Colfax, Wash.
770,401.—Churn — H. A. Thomasson, Whatcom, Wash.
770,513.—Pump Piston—P. J. Waller, Los Angeles, Cal.
770,514.—Snatch Block — Walters & Prichard, Goldbar, Wash.
770,344.—Overflow Valve—G. M. Weigel, Ballard, Wash.
770,548.—Tank Car—A. D. Whittemore, Redlands, Cal.

Liquids for Preserving Exhibition Fruits.

The Canadian exhibition of fruit in jars at the World's Fair is said to show remarkably fine color—better than any other exhibit. It seems that the Canadians have been making a special study of formulas for the purpose of preserving fruits intended solely for exhibition purposes. These are the solutions that were used in preparing the St. Louis exhibit, according to the Fruit Grower:

Formalin Solution — Distilled water (or any perfectly clear water will do), 44 pounds; formalin, 1 pound; alcohol, 5 pints.

Boric Acid Solution—Dissolve 1 pound of boric acid in 45 pounds of clear water; agitate until thoroughly dissolved, then add 5 pints of alcohol. If the fluid is not clear, allow it to stand and settle, when the clear upper portion may be poured off and the remainder filtered. This solution and the one given above are used for berries and dark-colored fruits.

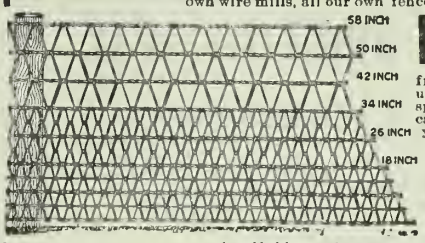
Zinc Chloride Solution (for white, yellow and green fruits, and especially for vegetables)—Dissolve ½ pound of zinc chloride in 15 pounds water; agitate until dissolved, then add 1⅔ pint of alcohol; allow this to stand until settled, then pour off the clear portion and filter the remainder.

Sulphurous Acid Solution—Sulphurous acid, 1 pint; water, 8 pints; alcohol, 1 pint.

In the Canadian exhibit will be found fruits and vegetables preserved by all these solutions, and any one who is interested in matters of this kind can study the exhibit with profit.

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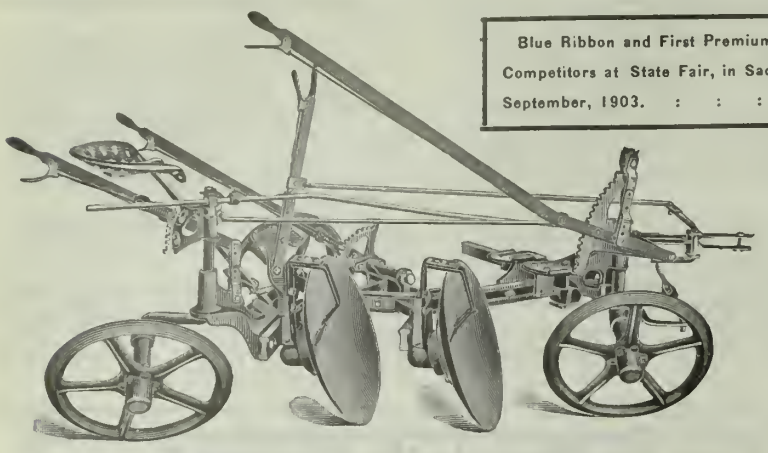
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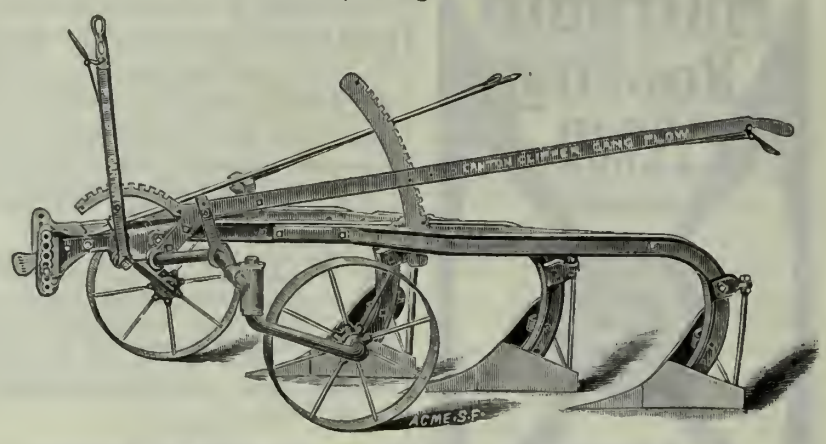
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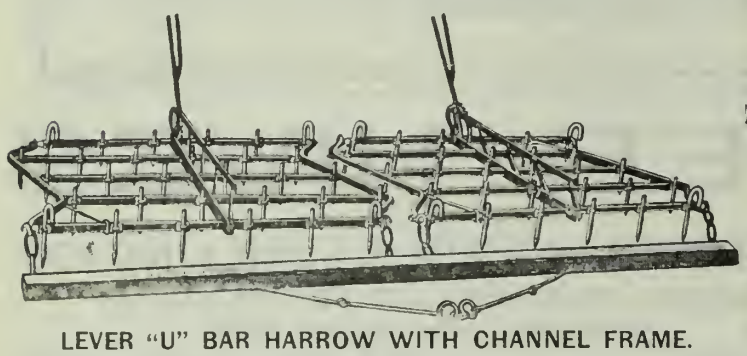


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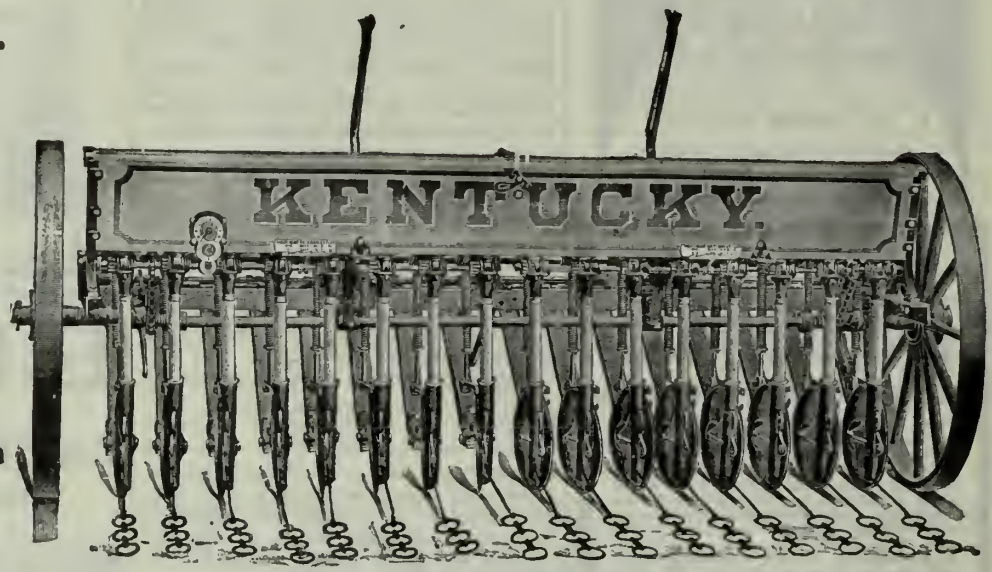
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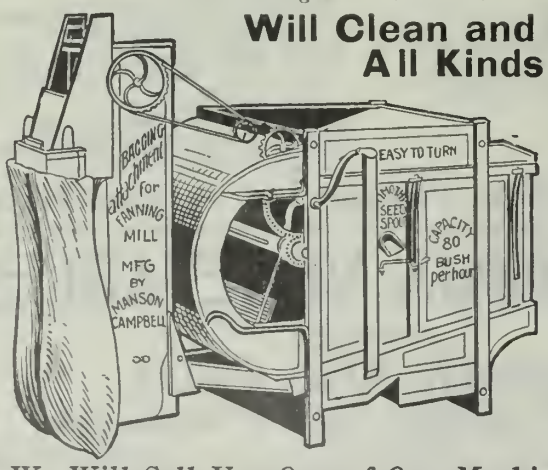
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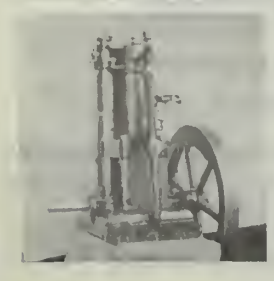
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The Yerba Buena Jerseys.

The dispersion sale of the Jerseys of Yerba Buena Ranch, in Santa Clara county, is a matter of such general interest that we select it for prominent illustration and comment. The late Henry Pierce was a striking figure in upbuilding of California. He was a man of great industrial and commercial courage and shaped many enterprises. Our personal experience with him did not relate to his chief activities, but rather to his recreations and his benefactions. The latter are probably known to but few people, nor do we intend to speak of them. His chief recreation was probably in the indulgence of his taste for fine live stock, and into this he entered with enthusiasm. Other members of his family cherished the same avocation in New England, and the Pierce name stands high in the annals of the Jersey breed, which commanded their interest. We remember clearly Mr. Pierce's delight at the pioneer achievement of Jersey Belle of Scituate, which set the pace for all the later Jersey queens, and the liberality with which Mr. Pierce sought royal blood of all the reigning families for a score or more of years. While he was building up his Yerba Buena herd, he was a regular exhibitor at the leading fairs in California, and his commanding figure and concentrated interest in all the contests for supremacy in the ring were noted by all. He believed in getting the best and holding them up to the standard. Naturally, the dispersion sale of the blood which he collected should attract much attention.

We have on this page a few of the portraits taken from the catalogue issued by Fred H. Chase & Co. of this city, who are arranging for the event of the sale with due regard to the material which they have on hand. The catalogue should be secured by all interested. First appears the fine picture of El Toro of Yerba Buena—a sire in which Mr. Pierce took much pride and satisfaction, and whose blood runs in many of the present offering. El Toro was killed some time ago in a fight, but his descendants are worthy of his fine lineage, which is rich in Scituate blood. The first cow in the bunch adjacent is Eve of Yerba Buena—a fine, solid dark fawn with a milk record of 37 pounds and a butter record of 13 pounds. The next cow—Fidella of Yerba Buena—has a record of one pound less milk and half a pound more butter. Next comes one of the younger cows—Addie Exile—a solid light fawn—a beautiful animal—and last is an older cow, Bye Bye of California, a cow which Mr. H. Pierce refused to sell on many occasions on account of her individuality, the number of famous animals appearing in her pedigree, and her close relation to old Coomassie, thought by many to be the best Jersey cow that ever lived. The Yerba Buena herd represents thirty-five years of breeding, and includes three direct importations from the island of Jersey and many from the best Eastern Jersey herds.



El Toro of Yerba Buena—A Famous California Prize Winner.



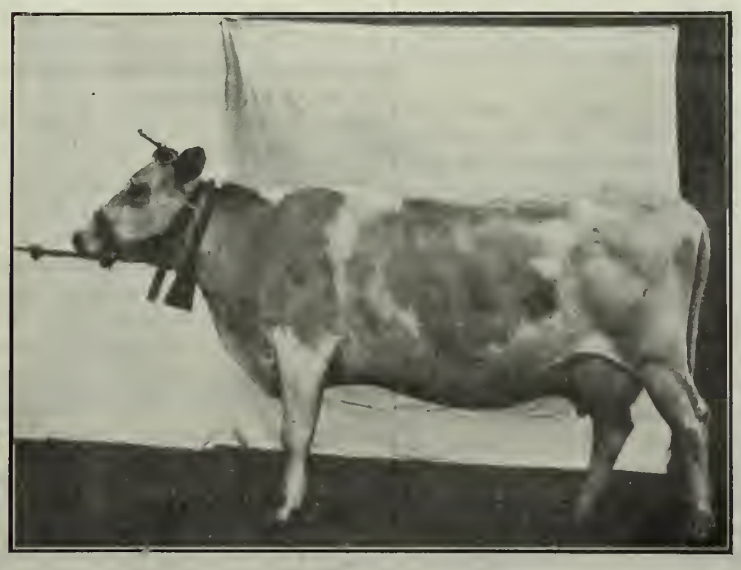
Eve of Yerba Buena—Well Bred and Handsome.



Fidella of Yerba Buena—Of Prolific Family.



Addie Exile—Alert and Sprightly.



Bye Bye of California—Fitly Named for Dispersion Sale.

THE Fresno Chamber of Commerce is arranging to distribute 100 tons of raisins at the St. Louis Exposition. The raisins will start East in a few days.

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SAN FRANCISCO, OCTOBER 22, 1904.

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The Week.

Full days of sunshine, full nights of moonshine, day and night temperature delightful and inviting to the open air, grass growing freshly everywhere and flowers abloom — sueh are the October joys of California life when the rainy season opens early as it did this year. The signs are set for an old-fashioned year and the thousands of newcomers who are now flocking into the State will live over again the experience of the Californians of old who set the world aflame with their reports of the summer land of the West where spring begins in the autumn and winter is unknown. For our experienee is that a rainy season which begins early and well earries the same face thereout and gives no opportunity for the intrusion of drouth and hard freezing. Even the snow flurries which come sometimes with the heavy rains seem warm and melting as they fall, and are kinder to tender vegetation than the frosts which attend the dry year. These are the years when the gold of the ripening orange appears sometimes garlanded with the quickly vanishing snow and is not injured thereby. These are the years when the passion to plant reaches its greatest fervor, the seed stores and nurseries are emptied of stock and trade in all sorts of out-door things—even the land itself—is briskest and best for all interested. It will be a fine thing to have such a characteristic California winter just at this time, when so many new people eome expecting to realize it, and in the aetivity which will prevail we shall all forget that there are sometimes exceptional years even in a State where things are so uniformly good.

Spot wheat is firm and unehanged and not much doing, although it is an interesting fact that during the week the first straight cargo of wheat of this eereal year went out, eovering 75,072 eentals for Europe, while 50,000 barrels of flour have gone by two steamers to China. Chicago wheat futures have advanced 5¼c per bushel on December and 3c on May, while here options are firmer but not materially changed. One vessel has arrived under charter at 22s 6d, wheat or barley. Barley is steady and unchanged and other cereals have the same record. Choiee beans are higher and scaree. Bran is weaker and other mill feeds unchanged. Hay is unchanged and firm for fine stored lots, while exposed and damaged hay is weak. Straw is higher. Veal and thin beef take a lower range; other meats are unehanged. Butter is also about the same, with quite a break between faney and the lower grades. Cheese is strong for mild new and other grades firm. Fancy fresh eggs are scarce and stored eggs abundant. Poultry is in the main improved and receipts are lighter with a fair demand, although the game season has opened and the shooting good. Potatoes drag heavily and are soft. Onions are firmly held in a few hands and the demand good. Apples from Colorado and Oregon are good and sell well. Choice grapes also do well, but the mass of the supplies is soft and water-soaked. New Navels are in from Rocklin and held high; Valencias are unchanged and lemons quiet. Few dried fruits are offering, except prunes and raisins, and they are firmer, with quite a movement, and raisins not offering freely. Two steamers have taken 143,000 pounds of assorted dried fruits, largely prunes, to British Columbia. Fine almonds are firmly held in seeond hands, while poor ones are not sought for. Walnuts are arriving and going out rapidly. Honey is quiet; held steadily, but little doing. Hops are firm at about the same rates as last week and few remaining in growers' hands. Wool is strong, but little here to trade in.

One of the most active producing propositions just at this time is the movement to inerease the gluten eontent of California wheat. It was a general surprise when it was announeed by Professor Shaw of the University, at a meeting of the California Development Assoeiation at Woodland last week, that about 70,000 tons of wheat are imported annually into California for milling purposes because California wheats are deficient in gluten content, and strong gluten wheats must be had to mix for making good flour. Wheats imported to grow in this State deteriorate by increasing starch and decreasing gluten, and as a result it is believed the only way to develop in this State a wheat having the requisite qualities is to breed it from varieties now growing here. It is also desired to develop a wheat that will yield more per acre. These are matters which appeal to the millers who wish to increase their trade with Asia, and to growers as well, because it is a shame to bring into California by train about as great a weight of wheat as we send out in fresh deciduous fruits. Probably the gluten wheat needed can be grown here by selecting the local soil, elimate and variety, and the millers propose to push the question to a demonstration and to raise the funds neeessary to make the eulture and chemieal tests which are required. The Sacramento Valley Development Association pledged its support to the University of California in the matter of establishing two experimental stations in the Sacramento valley. The pledge carried with it an appropriation of $1000 and support of the Asso- eiation to secure an appropriation of $6000 from the State Legislature; also assurance in getting the necessary land in the valley. The milling companies of San Francisco and elsewhere propose to provide funds enough to carry the project along, and it seems at present about sure to go. The Agricultural Department of the University has had the subjeet in hand for several years and has done what it could with available funds. The present movement is to build largely upon the foundations already laid.

One of the horticultural commissioners of Alameda county has given out a statement attributing the untimely blooming of fruit trees this autumn to the work of the cherry and pear slugs. The explanation is inadequate, if not altogether incorrect. The blooming out of season has occurred in the main upon trees which, because of lack of soil moisture, stopped growth too early and became dormant. They were awakened from this dormancy by the heavy rains which came this year with a high temperature and caused the tree to do just what it would have done next February, if it had remained dry, until there came later rains with a lower temperature. Trees which had enough moisture held their leaf growth, and therefore did not go into premature dormancy, from which they could be coaxed into bloom by the heat and moisture. The whole matter is one of plant physiology; the insect is not in it to any extent.

It seems that California has done more than any other, not only for, but with the World's Fair. Mr. A. B. Nye, secretary to Governor Pardee, has been taking a sort of analytic view of things, as is his custom, and assures the Saeramento Union that, distance and expense of travel considered, Californians are visiting the Exposition more freely than the people of any other State, and of eourse all classes of our people are represented; but he was struek by the fact that the business and professional men and society folk whose names we become familiar with by seeing them in the newspapers, are few in number by comparison with the others. The attendance is distinetly popular and represents the farmers, the mechanics, the miners and other workers and producers, along with a great many of their wives, daughters and sons; in other words, the real people. Mr. Nye is undoubtedly right about the St. Louis attendance from California and, if he had thought of it, he would probably have gone on to say that the real people are doing more for California, and more to exalt California in the eyes of the world, than they ever did before. The crop of figureheads is scant in California now—the real people are doing things all along the line.

And so the Agrieultural Fair grounds is going into town lots right away. That is just where it ought to go. The directors at their meeting this week were assured that the title to the land is perfect, and it was also announced that the State would be responsible for all deeds rendered for the next five years. On this assurance the lands will be advertised for sale, the land to be sold in five separate parcels to the highest bidders. Thus the directors will be able to improve their financial standing with the State, and the next Legislature will be in good shape to do what they see fit with the various State Fair propositions which will come forward. It seems to us that the Directors are doing wisely in arranging so that the future may be determined wholly upon merits.

It is fortunate that the rains have not wholly brought an end to the valley grape crop. Mr. George B. Katzenstein tells the Sacramento Union that at least 100 more carloads of grapes will be shipped from California during the present season. These will be mainly Cornichons and Emperors. Tokays and Muscats have been injured to such an extent by the rain that eomparatively few of them will be in condition for shipping. Grape growers in Sacramento distriet have been encouraged by the wind from the north, as it promoted a general drying up of the vines and continuation of shipments. The dry wind may bring out some Tokays that otherwise would have been a total loss. It is well that something may be saved, for the aggregate loss of fruit was considerable.

The California Promotion Committee of San Francisco, which has been corresponding with owners of large tracts of land with a view to subdividing for the accommodation of settlers, has heard from more than sixty owners, who expressed their willingness to cut up their land as requested. The committee has recently issued a statement that it is probable that a ranch containing 42,000 acres, and located in the Saeramento valley, may soon be on the market.

The special commission of Mississippi valley engineers, called to advise the State relative to conservation of its navigable rivers, reclamation of low lands, prevention of floods and disposition of river deposits, has concluded its labors and retired to make up its report, whieh will be ready by the middle of December. A sort of semi-official forecast of the report indicates that the Commission will depart from the previous plans for draining the Sacramento river by earrying off the surplus water to the bay by by-pass canals. It will advise instead that the treatment be pursued that will ultimately make the river carry all its waters, a lthough at first there will be a diversion from the Sacramento river ehannel of a large proportion of its flood waters by means of eanals to the bay. This is only to afford immediate relief to the flooded distriet. Ultimately they intend to make the channels of the river carry off all its own waters, instead of making and perpetuating a system of eanals. The San Joaquin river will be treated in about the same manner. When the river channels are rectified as the engineers will advise, they will be able to take eare of all the water. This will eertainly be grand if found feasible. It will give two fine waterways for interior navigation.

QUERIES AND REPLIES.

Chicken Ticks and Their Treatment.

To the Editor:—I send specimens, one of the large, flat chicken ticks that infest our chicken houses and coops. This tick seems to attack the birds at night, and hides under manure, in cracks and under boards and straw in the daytime. The others are some dry specimens of a small tick that covers the chickens' bodies in the summer and fall—attaching themselves at the base of the feathers and along the veins and sucking the blood. In some cases they bury themselves where the pin feathers are coming out and stay under the skin. I found some apparently the same on both an owl and a hawk and also on a "ringtail" which we caught in a trap. Are they merely the small ticks from the larger specimen or is it separate species? Would it be safe to take chickens from here to another ranch? We have only been here three years, and last summer I used coal oil, and finally took the old roof all off the chicken house and scalded thoroughly with boiling water and oil of tar. I killed thousands of ticks, eggs, and small ones, and this year there does not seem to be quite so many of either tick; but we have not many chickens this year, so I cannot tell so well. We have had three die from the small ticks this summer. Is there any way to get rid of them without burning the old buildings?—Subscriber, Pope Valley.

Dr. C. M. Haring, assistant veterinarian at the University, informs us that the specimens which you send are the ordinary chicken tick, so common in California. Its scientific name is Argas miniatus. This parasite is quite similar in its habit to the bed bug, being most active at night. During the day many of the ticks leave the bird and hide in the cracks of the floor, or roosts. It infests chickens, ducks, turkeys, pigeons and many of the wild birds, especially at the nesting season. A liberal use of coal oil or corrosive sublimate (1 part to 500 parts water) applied to every part of the interior of the house is of great benefit. Tar applied around the perches near the points where they fasten to the walls will protect the chickens from night attacks of the ticks. Where, however, an infection is bad and the ticks exceedingly numerous these methods of protection seem to be inadequate and the construction of a new house, or at least a reconstruction of the old—a complete knocking down, cleaning and rebuilding again—seems to be nccessary to destroy them. In Australia these insects are also bad and the recommendation there is that the houses be built of galvanized iron, so that they can be filled with straw and fired occasionally for the destruction of these insects. In moving to a new place it would be very desirable to examine the fowls carefully and in that way lessen the danger of carrying the insect with you.

The Flat-Headed Borer.

To the Editor:—I noticed that some of the limbs were not looking healthy, and on investigation I found that a sort of worm having a large flat head and tapering body had burrowed under the bark and into the heart of the branch, and seemed to be causing the trouble. Would be pleased to have you tell me the cause and remedy.—Orchardist, Hanford.

The insect which you describe is the common flat-headed borer. It is the off-spring of a beetle, which deposits its eggs upon the bark, selecting bark which has been injured by the sun; and therefore we find borers plentiful in trees which are suffering from sun burn, both on the main stem and on the exposed branches. There is no practicable way to reach the insect after it has deeply entered the wood. At this time of the year, it will soon reach maturity and appear as a beetle. The way to protect the tree is to cover with whitewash all of those parts of the bark which are reached by the sun; that is, the main stem and the branches as high as one can reach. It is, of course, desirable to grow fruit trees with low heads so that the shade shall protect the bark from sun burn, and consequently from injury by borers.

Sawdust for Strawberries.

To the Editor:—Will you please tell us about the use of fresh sawdust and chips about strawberry plants. We have them of both pine and juniper, and we fear they are too fresh and full of turpentine and would kill the plants. We know they are good if a year or so old. These chips and sawdust are mixed so we cannot separate them. Will it do to use them this fall on a fine growing new strawberry bed?—Grower, Siskiyou county.

We have never heard of injury by the use of fresh sawdust. It is not likely that enough spirit can be extracted by a slow cold water process to injure the plants. There is more danger, perhaps, in using so much sawdust that the fermentation may generate too much heat. There would be least danger from either cause at this time of the year when the temperature is low and the rain, in your region at least, likely to be abundant. We should spread the sawdust at once and trust to the winter to take the heat and spirit out of it. In light soils inclined to be sandy, however, one should be careful not to use too much sawdust of any kind. It is apt to make the soil too open and prone to dry out, and too apt to carry fungus to the plant roots. In a heavy clay these things are not likely to occur, and the effect of a moderate amount of sawdust may be beneficent.

Care of Raspberries.

To the Editor:—Will you kindly give me information in regard to pruning raspberry bushes? We have quite a number of them, which we have cared for for a number of years, in an unprofessional way, and they have been quite profitable, but we would like to get the best results possible from them, so thought I would write you.—Amateur, East Oakland.

The pruning of raspberry bushes at this time of the year consists in getting out all the old canes, that is all which have fruited during the past summer. The growth of new wood which has been made since last spring should be saved and tied up to stakes or to a wire trellis for fruiting next year. That is about all the pruning that you can do at this time. During the growing season it is a good idea to pinch off the tops of the new shoots when they are about 3 feet in height. This causes them to send out side branches and gives you more bearing surface for the following year.

It is a good idea now to apply manure to the surface of the ground, and allow it to be acted upon by the rains, and then, say, in the month of February, dig the manure and all the weeds that have grown into the soil. This increases the amount of plant food and stimulates the raspberries to better growth. You will see that the treatment of raspberry plants is rather simple. Probably you have already done what has been suggested; if so and the plants are strong, you may be assured that you are doing about as well as you can.

Burning Quality of Eucalyptus Wood.

To the Editor:—As a ready of the Pacific Rural Press, I ask to write what time of year is the best for cutting eucalyptus for fuel? My reason for asking is that I have been using wood of that kind that seemed full of water, making it difficult to keep up a fire in the cook stove, and as I had always found the eucalyptus wood a ready burner before, I concluded it must have been cut at the wrong time. Do different soils on which it is grown have anything to do with its burning properties?—Mrs. L. M. P., Long Beach.

We have no observations on these points. We have noticed different degrees of inflammability, but have attributed them to conditions of seasoning. If any one knows better we shall be glad to hear it. We find nothing on the subject in the eucalyptus books at hand.

Piemelons for Horses.

To the Editor:—Will you please inform me through your paper the feeding value of citrons, or piemelons, for horses? Is it good for them to eat them, or not?—Reader, Kingsburg.

Piemelons are rather a thin food for a horse, as his stomach is too small to contain the amount which would cover the amount of nutritive materials that his support demands. We never heard of any ill effects from the piemelon as such, however. If his appetite demands a certain amount of succulent food with his grain or hay, he can get it all right from piemelons—but do not expect him to do much with them except as a relish, tonic or alterant.

Hard Sida.

To the Editor:—I send a weed which threatens to become very obnoxious in Mendocino county. It is supposed to have been introduced in hay which was shipped in. It spreads by creeping rootstocks as does morning glory.—Reader, Largo.

The plant is Sida hederacea. It is one of the Malva family, that has no common name known to us. It is plentiful in California, especially on the alkaline soils in the interior valley and in southern California. It is also a bad pest in the counties north of the bay. It does not seem to attract much attention until they begin to cultivate the land, when the plant seems to grow rapidly from broken rootstalks. We do not know any practicable way of eradicating it except that which is effected in the case of morning glory, and that is to keep it continually cut with a sharp weed cutter running about 2 or 3 inches underground, and never allowing the plant to get to the light. In this way it can be starved or smothered out.

WEATHER AND CROPS.

Report of the U. S. Weather Service for Week Ending October 17, 1904.

Alexander McAdie, Forecast Official and Section Director.

Sacramento Valley.

Cool, cloudy weather prevailed most of the week, with frequent rains. The Sacramento river on the 12th rose to 18 feet at Sacramento and 20 feet at Colusa, causing some damage to farming lands and crops. Northerly winds at the close of the week absorbed some of the surplus moisture in the soil. Plowing is progressing, but in some places the ground has been too wet for seeding. Early sown grain is up and looks vigorous. Green feed is plentiful and growing rapidly. Beans, hay, grapes and late prunes have been considerably damaged by the recent heavy rains, and in some places the second crop of grapes is reported a total loss. Tokay shipments from Sacramento have ceased. Oranges are beginning to color and the outlook is good for a large crop.

Coast and Bay Sections.

Cloudy, unsettled weather prevailed part of the week, with heavy rains in some sections, but there were two or three days of clear, warm weather. High water in the Russian river and other streams in Sonoma county caused some damage to corn and potatoes. During the clear weather much progress was made in gathering late grapes, and it is reported that the loss with this crop will be lighter than anticipated. Beans in the vicinity of Watsonville were seriously damaged by rain. On the whole, the heavy rains have been very beneficial. The hills and fields are green, early grain is making good growth and green feed is abundant. Plowing and seeding are progressing. Potatoes and beets give promise of fair crops. Oranges and olives at Cloverdale are in good condition.

San Joaquin Valley.

Partly cloudy weather with showers prevailed during the first part of the week, and clear weather during the latter part. The rain virtually ended all fruit drying, and grapes are being shipped to the wineries, which are running to their full capacity. A few grapes are being marketed, mostly black varieties. For grass and stock the past week was exceptionally favorable. Grass has made rapid growth and stock are doing well. Farmers are busy preparing for fall work. The ground is too wet in most places for plowing.

Southern California.

The weather during the week was generally clear and favorable for raisin making and walnut picking. Rain at the close of last week caused no damage to raisins, owing to timely warnings and the prompt stacking of trays. Raisin drying is completed at Poway and progressing favorably in other sections. Walnuts were not damaged by rain. The bean crop in the Santa Maria district will be considerably less than expected, owing to shelling of the beans in the fields during the heavy rains; threshing is progressing. Potatoes are doing well and grass is making good growth. Citrus fruits continue in good condition.

Eureka Summary.—Cloudy weather nearly all of the week, with considerable rain. Farm work was somewhat delayed. Grass is making rapid growth; good pasturage on all ranges. Potato digging and pea threshing progressing slowly.

Los Angeles Summary.—The late rain in the southern portion was too light to do good or harm. Dry wind Sunday night will add to demand for irrigation water. General farm work is at a standstill, waiting for rain.

Rainfall and Temperature.

The following data for the week ending 5 A. M. Wednesday, October 19, 1904, are from official sources and are furnished by the United States Weather Bureau for the Pacific Rural Press:

California Stations.	Total Rainfall for the Week	Total Seasonal Rainfall to Date	Total Seasonal Rainfall Last Year to Same Date	Average Seasonal Rainfall to Date	Maximum Temperature for the week	Minimum Temperature for the week
Eureka	1.04	4.34	3.27	3.47	60	42
Red Bluff	.60	8.49	.46	1.57	76	44
Sacramento	.06	5.47	.12	1.09	70	46
San Francisco	.00	7.45	.17	1.23	70	54
Fresno	.00	4.98	.00	.63	74	40
Independence	.00	.47	.42	.47	70	38
San Luis Obispo	.00	4.58	.02	1.54	82	50
Los Angeles	.00	1.13	.43	.63	88	48
San Diego	.00	.16	.07	.42	84	54
Yuma	.00	.81	.62	.85	90	54

FORESTRY.

Practical Value of Eucalyptus.

By Mr. L. H. Dodson at the University Farmers' Institute at El Cajon.

Not many years since hundreds of farmers were busy clearing the forests from some of our Eastern States in order that the land might be gotten ready for the plow. Much of this timber was burned to get it out of the way.

Then and Now.—The timber supply of the United States seemed inexhaustible, but nine-tenths of the supply has already been used up or destroyed, and while the lumber industry ranks fourth in importance and the demand for lumber is constantly increasing, the supply is diminishing at a fearful rate.

Standards have been lowered till logs that would formerly have been culled are now gladly taken and certain kind of trees, formerly considered worthless, are now sought for.

You older people from some of the Eastern States remember how hickory was the great firewood in winter, but you know they do not burn much of it now, and the other day I inquired of the Russ Lumber Co. the price of hickory lumber and they told me it was worth 20 to 25 cents a foot.

I can remember fine black walnut logs burned to get them out of the way, but now walnut lumber sells in San Diego for 30 cents per foot, ash at 13, and even oak goes from 9 to 17 cents per foot.

Where will the people of the United States get their lumber supply from for the next decade? From whence will come the telegraph poles, railroad ties, the fence posts of the future, to say nothing of the timber used in carpentry and manufacture?

Iron and steel is used some; the Government is trying to stop the waste, but the prospect of a timber famine is staring us in the face, and it looks as if the country would soon be looking to the eucalyptus groves of California and Florida for its principal supply of hard wood, and the man who has been paying freight on his lemons need have no fear of a glut in the timber market.

Not One But Many.—But let me say here the word eucalyptus does not necessarily mean "blue gum," for while the blue gum is a eucalyptus, there are 150 others that are equally entitled to the name—so if you have not been favorably impressed with the blue gum, please do not cry out in wrath against the whole family till you get acquainted.

The genus includes trees 400 feet high which outtop even our magnificent sequoias; it also includes trees that grow no more than 10 or 12 feet high; trees that show a 100-foot trunk without a single limb; trees that branch down from the ground.

As to climatic requirements we have trees native to the swamps of Australia, trees growing in the scorching deserts where they sometimes have a temperature of 156°. Trees from the rich level plains; trees from the rocky hillsides; trees demanding a tropical climate and trees growing almost to the snow line.

As to timber the eucalyptus produces woods that are red or white or brown in color, wood beautifully grained; wood that rivals mahogany in color and beauty; woods that equal hickory in strength and elasticity, or cedar in durability; woods that will rot in two years under ground; woods that will last half a century.

As to appearance the eucalyptus produces some of the most beautiful trees in the world and some of the homeliest, trees of persistent bark, and others that shed their bark so often as to keep the ground in constant litter; trees that produce large flowers, small flowers, flowers of red and white, pink and yellow. Broad leaves, narrow leaves, leaves of almost every color, leaves with an exquisite perfume and leaves that smell like a chinch bug. Surely a man must be very particular who cannot find some kind of a eucalyptus to suit him.

Uses.—Some time since a friend came to me with a wonderful discovery; he had broken his pick handle, and in desperation had made one from a blue gum pole found in his yard, and to his surprise found it to be superior to the hickory handles he had been getting. Then in his enthusiasm he made some singletrees and a wagon tongue, without knowing that thousands of feet of eucalyptus timber are used for such purposes every year in Australia.

The other day I saw in a newspaper that Mr. Gillespie of San Jose is using blue gums for wagon making and claims that actual tests show the wood to be 50% stronger than white oak; 20% stronger than black locust. In the same paper I read of Mr. Rodgers of Watsonville, who furnished the inside of his house with blue gum and it is pronounced to be exquisitely beautifully.

A pessimistic friend said to me: "Suppose you had the whole country set out to eucalyptus, suppose they were big trees, what could you do with them? You couldn't sell it for firewood, what would you do?"

Well, I do not know just what I would do if I had such a snap as that, but I know of some things I might do.

First, I would let a good deal of it alone. Along the hillsides I would have a great deal of it to catch and hold the surface water that runs off after every rain. In this way I would have more water in my well next summer. I would have a lot of groves for the use of consumptive tourists that have heard of the healing qualities of the air found in the blue gum forests. I would have a great many trees for shade, and to enhance the beauty of the landscape, but I should cut a good many of my sugar gums to use for ties in the new railroad that would certainly be built if we had such timber here. A lot of my rostratas and sideroxylons would go into piles and bridge timber to support the track. The little spindling citriodora or pilularis trees, that are crowded too much to grow well, would make the telegraph poles along the road. Diversicolor and blue gum would build the cars to run on the track and the depot buildings along the road. Microtheroa and resinifera would furnish the fine cabinet work for the magnificent coaches—though people would call it mahogany—instead of eucalyptus wood. The street near the depot would be paved with eucalyptus blocks to keep down the mud and dust. The piles and lumber used in the big steamship docks would be made of rostrata and the ships that sailed from the port would be largely made of diversicolor. The first train on our new railroad would be loaded with eucalyptus honey, the next with gums and eucalyptus oils, while these and many other trains used to send splendid timber to the East would come back loaded with supplies for the thousands of men employed in wagon shops, furniture factories, implement houses and the thousand and one other factories that would spring up if we had such a lot of hard wood. What would I do with it? I would show you what I would do with it.

For the Future.—I never expect to see the whole country planted to eucalyptus; lemons and oranges will still grow; the voice of the grape picker continues to be heard in the land, but there are thousands of acres that are not now paying taxes that might be growing a college education for that boy or girl you want to give a start in life; or they might be raising a small sum for the "rainy day" that is coming after awhile.

Land along the hollows too rough to plow, ground covered with boulders, but which has a deep soil, a thousand places could be found that will just suit eucalyptus.

Planting and Rate of Growth.—To most folks the great bugaboo is the time required, and some will laugh at the very idea of planting for lumber, but if an intelligent plan is followed, even this is not impracticable.

For the best results trees should be planted much closer together than they are expected to stand when large. In this way they shade the ground, protect the roots from heat, cover the ground with leaf muleh, and keep out the dry, hot winds that are so trying on young forests. As the trees grow they may be thinned, though care should be taken not to let in too much sun, and at four or five years old trees thus taken out are often worth considerable as fence posts, or even sometimes for more important uses. By the end of ten years there ought to be a good many trees ready for railroad ties or piles, and there will still be a considerable number to grow for lumber, if you care to wait for it.

Just how long it will take to raise a sawlog depends on many things. I read in one of the Los Angeles papers of Mr. Gillespie of San Jose, who had a blue gum tree cut which made $8.75 worth of lumber, besides three cords of wood. As to the age of the tree I cannot say, but Mr. Lieb of San Jose sold a tree thirty years old which measured about 5 feet in diameter and also measured up 6000 feet of lumber, which at the price paid for blue gum lumber there—$50 per thousand—made the tree worth just $300, besides the firewood secured from the top. You will see that the tree paid just $10 for each year of its existence, which is not a bad record for a single tree. But as you probably do not want to wait thirty years for your money, I will state that it is by no means necessary to wait till the tree gets 5 feet in diameter to cut it into lumber, and it is not very uncommon to see a eucalyptus tree twelve or fourteen years old that would make a very respectable sawlog. I have known of eucalyptus being sawed at ten years old.

Near Los Angeles it seems to be generally understood that from five to seven years is about the time to wait before cutting for firewood, and fifty to seventy-five cords have been secured from seven years' growth. Of course, this is from good land, and no one could expect such a yield from a dry hillside.

Varieties.—In raising eucalyptus, as in everything else, common sense comes into play. Not long since I read of what one man had done from a ten-year-old citriodora tree, and the writer began drawing fancy pictures of what might have been done if all our bottom land had been planted to citriodora eucalyptus. I do not enthuse much over the pictures, because I know that if trees of that kind had been planted they would have been killed the first year by frosts, for, while the citriodora is a valuable tree, it is tender of frost. A specimen of citriodora can be seen at Mr. Judson's house. This tree is about nine years old and stands in the yard where the ground is tramped hard as the road. As I understand it, the tree has had no particular care since the first year or so, but it now measures 11 inches in diameter 4 feet from the ground. I have no doubt that it would have been as large again if it had been planted in some place under forest conditions. Mr. Brown planted a citriodora tree here in the village. It grew some 4 or 5 feet the first year, but promptly died at the first severe frost.

Under favorable conditions the blue gum makes the most rapid growth, but it does not endure frost well, and is too much of a lowland tree to be expected to stand the dry hillsides without irrigation. The wood is valuable for many purposes, but it will not last long underground, and so it is a poor tree for fence posts or anything of the kind, though it makes good piles in salt water, owing to the fact that the teredo will not eat it. Prof. McClatchie says the blue gum pile will last twice as long as the Oregon pine or redwood. Mr. Anderson of the Bureau of Forestry, who has made a careful investigation of eucalyptus piling, wrote to me about a year ago that an Oregon pine would last about two years, while a blue gum would last from four to seven years. He said the Santa Barbara blue gum piles were selling at $15 each laid down on the wharf. At other points he found a prejudice against blue gum piles, but the prejudice was passing away.

Mr. Frank Sessions told me some time ago that he had recently sold some piles to be used on the Santa Fe wharf, San Diego, at 25 cents per linear foot. As these piles were 40 to 50 feet long, they brought him from $10 to $12.50 each.

The sugar gum is not so rapid a grower as the blue gum in moist land, but will often outstrip it in dry situations. It will stand more heat and a great deal more drouth than the blue gum, makes a superior quality of wood and most excellent fence posts, and it endures so well underground. In my experience this summer I found that sugar gums would live and make some growth on about half the water that would barely sustain life in the blue gum under similar conditions.

The E. rostrata grows rather faster than the sugar gum and is perhaps the best all around tree for planting in this valley. It will stand several degrees more cold than either of the preceding trees and will almost equal the sugar gum in resisting drouth. It also stands considerable alkali. It is a very lasting timber under ground, makes a better quality of fuel than the blue gum, and in my opinion will make better piles.

The E. diversicolor is a tree that I think I should plant if I had a good piece of bottom land in this vicinity. It is not reported to endure drouth so very well, but the young trees I have seen seem to endure better than the blue gum and to grow faster under the unfavorable conditions of this year. It stands frost well and makes a straight-grained timber of excellent quality. It is also one of the best honey trees.

About the fastest grower I have found this year is the E. leucoxylon. It stands hot and cold and drouth better than most trees, but is apt to grow crooked, and I do not know much about the quality of the wood.

Another rapid grower is the E. rudis, which endures more heat and cold than most trees and will stand drouth. A good specimen of the rudis can be seen in back yard of Mr. Brown, down near the hotel. There the trees are planted alongside sugar gums beating them by way of comparison. As to the rudis, however, I understand that Mrs. Sherman of Fresno is better informed than perhaps anyone else in the country, and she has approved it for the San Joaquin valley.

I cannot close, however, without putting in a word for the tree that to me is dearer than all, and that is the E. polyanthemum. Perhaps it would hardly be the tree to plant in forest, but for a good shade tree to plant around almost any old place it is splendid. It is a pretty, spreading tree, with a foliage and general appearance so different from most eucalyptus, and will stand so much heat and cold and general neglect that I shall plant all I can of them for shade trees and honey.

Proposed Laws on Forest Fires.

On account of the recent fires in the Big Basin and other California forests, the organization of a State forest fire department to prevent and extinguish forest fires in California will be recommended by a special committee of the California Water and Forest Association, William Thomas chairman. The committee has counseled with representatives of the United States Bureau of Forestry. Several leading conclusions were reached relative to the proposed fire organization.

Three-quarters of a million acres of forests have been swept by forest fires during the last few months. This has led the California Water and Forest Association to work for better conditions. At the close of the recent conference it was announced that the outlines of a plan had been agreed upon, which, it is hoped, the California Legislature will accept at its next session.

The Plan Proposed.—It is proposed to have the Governor appoint a State Forester at a salary of $2000 a year. The State Forester is to appoint his assistant, who will be known as the Fire Warden.

These two officials will be the heads of the State's forest fire department.

The plan also provides that there shall be deputy wardens, ten in number, each of whom is to receive $1000 a year. The appointment of the deputy wardens will rest with the Governor of the State and his official associates on the State Board of Examiners. The term of office of the State Forester is to be for life, or during good behavior. The forester's assistant is to be appointed by the forester. The committee believes that the fire preventing and fire extinguishing department can be maintained at a cost of not more than $30,000 a year.

It is recommended that the proposed law shall authorize the deputy wardens to call upon citizens to help put out fires and provide compensation at 25 cents per hour and a penalty for refusing to give assistance. The recommendations will be embodied in a legislative bill after due consideration by the executive committee of the Association.

On Friday, December 1, the annual convention of the Water and Forest Association will be held in San Francisco, at 10 A. M., in the meeting hall of the San Francisco Chamber of Commerce.

FRUIT PRESERVATION.

Vinegar From Grapes.

To the Editor:—Is it much of a task, and does it require very much skill, to make vinegar out of grapes? I have some spoiled raisins that I want to get something out of, if possible, and thought they could be made into vinegar. Some of them are about half dried, the rest nearly green. Can you give me directions for the making of good vinegar from them? —A Subscriber, Fresno.

It can hardly be said to be an easy thing to make good vinegar from grapes, for to work with them on a commercial scale requires an outfit of machinery and cooperage, and some experience in the use of them. Then, there are ample supplies of vinegar in this State where there is so much material which is good for fermentation, viz., cider, prune juice, wine, etc., and we should say there was no encouragement to make vinegar for sale where one has everything to get and everything to learn. Still, there may be some satisfaction in knowing how it may be done, and so we comply with our correspondent's request:

We know of no way of making vinegar from grapes without first making the grapes into wine. Our California white wines contain from 14% to 18% alcohol, according to where they have been raised, the wines from the foothills being much heavier than those from the lower lands, especially if they have been irrigated. For vinegar, you do not want more than 8% or 9% alcohol, so you have to add from three-fourths to one part of water. The best is rain water, or else take spring water and boil it for awhile. Pour the mixture into a barrel or pipe, but don't quite fill it up. Bore a hole in each head near the bungstave to give a good circulation of air, and close the bunghole with a bottle, neck down. Keep as near as you can at a temperature of from 80° to 86°, and if your vinegar gets sufficiently sour draw off and refill, and it will sour much quicker the next time. To create a quicker fermentation you can add some yeast of any kind, sour dough, or, if you can get it, mother of vinegar, in filling the barrel the first time. Afterward it is not necessary.

Wine or any other alcoholic liquor of moderate strength will, if left to itself in contact with the air, ultimately turn into vinegar, the alcohol absorbing oxygen, and being thus transformed into acetic acid through the aid of a microscopic organism. This process, however, is too slow to admit of its being adopted in practice, and several methods, having for their object the more rapid oxidation of the alcohol, are had recourse to.

In France three principal methods are adopted, which may be enumerated as follows:

1. The Orleans process.
2. The German process.
3. The Luxembourg process.

The Orleans process is the one which was formerly the most used. It enables vinegar to be made, but is somewhat slow.

In the first place, the temperature of the building in which the vinegar is to be made must exceed 70° F. Provision must also be made for good ventilation. In this building the casks in which the vinegar is to be made are placed. These casks, capable of containing about 100 gallons, have a hole about 6 inches in diameter made in the upper part of the front head, in order to admit air. About 25 gallons of good, strong vinegar are placed in each cask, to which three gallons of the wine to be acetified is added every week until the cask is half full. It should then be left alone for a fortnight, by which time it will be converted into vinegar. One-half of this is then racked off, and the same process gone through again, care being taken to always leave 25 gallons in the casks after each racking.

The German or rapid process differs considerably from the above, and consists in causing the wine, heated to 80° F., to trickle showly over shavings in a cask, in presence of plenty of air. The wine should be passed three or four times through the cask, when the acetification will be complete.

The Luxembourg process is a modification of the former one, and consists in leaving the liquid in contact with the shavings—for which marc (the refuse of the vintage) may be substituted—during the day, while this is exposed to the air during the night. This result may be brought about in different ways. Two casks may be employed, one containing the marc, and so arranged as to allow the entry of the air once the liquid has been removed, and the other as a reservoir for the latter during the night.

Another process which gives very good results is to place the wine in rotating casks which are filled with shavings. These casks are only one-quarter or thereabouts filled with the wine to be treated, and an opening is provided in the center of each head to allow the free entry of air. These casks are turned round once every three hours, thus bringing fresh portions of the liquid in contact with the shavings. Although not so rapid as the German method, this process is sufficiently so for practical purposes, in addition to which it presents the advantage of causing less waste. With the German process the loss through evaporation may become considerable.

The first, or Orleans, process is the one which produces vinegar with the best flavor and aroma, as the volatile perfume ethers formed are less likely to be lost through evaporation.

When making vinegar it is well to see that the wine does not contain more than 20% of proof spirit. If necessary, it may be reduced by the addition of water.

THE VINEYARD.

The Winged Form of the Phylloxera.

Horticultural Commissioner O. E. Bremner of Sonoma county has submitted the following report regarding phylloxera, to the board of supervisors for the month of September:

The object of the commission being the improvement and protection of the horticultural interests of this county, we have tried to devote our attention to those products in proportion to their general importance, and it is therefore obvious that the grape industry should receive much attention. We are asked many times, "Is there any relief from the phylloxera?" Although no remedy at present excepting the planting of resistant stock seems possible, still a few results from our observations may be of interest.

I have failed to find any record where a winged form of phylloxera has been taken in this State, but being confident of its existence, having found the nymph last fall, I have obtained some seventy-five or more winged forms this season. [The winged form was obtained near Santa Rosa about 1880, and was described at that time in the Pacific Rural Press. —Ed.]

The first nymphs make their appearance the last of July. A wingless female in changing its last moult appears with wing pads. It takes nourishment in this form and lives in this form for about twenty days or a month, when the nymph moults and appears as an adult winged female. This operation is rather interesting, taken some twenty minutes until the wings are expanded. The nymph fastens the tip of the abdomen to some bit of support and proceeds to crawl out of its old skin, the split being in the head region instead of the thoracic region, as in most cases.

This winged form laid its eggs in from one to three days and in all the cases I observed, some twenty-five, the number was two. These eggs, which give rise to the sexual generation, owing to several causes, did not hatch. The actual power of flight in these winged females is very slight. The wings are vibrated rapidly, then the insect rises suddenly from 4 to 6 inches, the wings cease motion and are extended, the front wings at an angle of 45°, the hind wings at a much less angle and dipped toward the front. In this way I should think it possible for the insect to be carried great distances in a strong wind. I think that the phylloxera spreads from vineyard to vineyard throughout this section principally through the agency of this winged form.

Fully 90% of the nymphs were found on the small rootlets occurring less than 8 inches below the surface and very rarely on the larger roots or crown of the vine. These rootlets occur to the greatest extent in the best vine producing soil.

Now this shows several things. First, that winged forms occur on the best and thriftiest vines in the most select vine producing soil. That plowing to the vine so as to retain the moisture around the crown tends to the production of rootlets and thus to winged forms. That manuring phylloxera infested vineyards, while it may prolong the life of the vine, is detrimental to the vineyard at large, as it tends to produce these rootlets.

That spraying with any stimulant which would increase these rootlets would be detrimental to the vineyards. All these agencies, it is seen, cause the more rapid spread of the insect pest in a locality.

AGRICULTURAL ENGINEER.

Oiled Roads in Sacramento County.

The State Department of Highways has compiled the following information concerning the oiled thoroughfares of Sacramento county:

The first work was done in 1902, there being now 75 miles of oiled roads in use. They are constructed of various kinds of material—gravel, adobe, red clay, sand, sandy loam and macadam. The roadbeds are first properly graded and drained, and made solid as far as possible. Chuck holes are scraped out and filled with a mixture of oil, sand and earth.

The strip oiled is usually 12 feet wide. The oil is applied by the White Road oiler, 150 to 900 barrels per mile being used on the first application.

There is no fixed time for making the second application of 25 to 200 barrels per mile, the work being done when the weather, condition of roadbed, etc., seem most favorable, the amount of travel also being considered.

Cost of Oil.—The oil is obtained from Bakersfield at a cost of about 75 cents per barrel delivered in Sacramento. It is of 10° to 16° gravity, and of 50% to 60% asphalt. It is heated by injecting steam into the car tank, the resulting expansion of the oil being about 15%, the measurement for road work being made before heating.

Lack of Drainage.—The lack of proper drainage is the principal source of trouble in maintaining the oiled roads in good condition. In some places rows of trees with heavy foliage, which cause continued dripping of water and constant shade, have been found injurious to the roads during the rainy season. The most satisfactory results have been secured on macadam roads, the next best on sandy loam. The most difficult to improve by oiling have been those on adobe soil, which can be much bettered by the application of sand.

On Upper Stockton Road.—Examples of successful oiling are the 6 miles extending southerly from Sacramento on the upper Stockton road, the 11 miles extending eastward from Sacramento on the Folsom road, and 3 miles extending southwesterly on the Riverside road. On the upper Stockton road there is 1½ mile of macadam, on the Folsom road 1 mile and on the Riverside road 3 miles.

May and June are considered the best months for applying oil to roads, as they are usually well packed after the winter rains.

Grand Island's Sandy Levee.—On the Grand Island levee, composed of sand 20 feet deep, 25 miles below Sacramento, a strip 6 miles long, 10 feet wide, was oiled last year, 1000 barrels per mile being used. Such an excellent driveway has resulted that 6 miles additional will be oiled this fall. Altogether, about 25 miles more of road will be oiled in Sacramento county this year.

HORTICULTURE.

Cranberries on the Upper Coast.

Mr. Alexander Birss of Skagit county, Washington, gives the Orange Judd Farmer his conclusions on cranberry growing, which we introduce because we are often interrogated on the question. In California, though for years experimental plantings have been made, no commercial basis has been attained. Mr. Birss says that cranberry culture on the Pacific coast has not made such rapid strides as was predicted. This is a matter of some wonder to the general public, as the development of nearly every other form of agriculture along the Pacific has been indeed marvelous. A few years ago there were some seventy five acres of cranberries in cultivation in my part of Washington. I think there are now but slightly in excess of eighty acres. One company near Ilwaco in the southwestern part of the State has over fifty acres in cultivation. It has changed ownership lately. The rest of the concerns that produce cranberries are small affairs. I have five and one-half acres that did fairly well last season, but this year they are light.

We are bothered somewhat by late spring frosts that damage the berries more or less severely. Sometimes we experience a very hot summer, which proves hard on cranberries at the time they go from bloom to berries. Extreme heat blights cranberries greatly. Again we often have wet weather about harvest time, and are compelled to pick the fruit in wet condition and then dry it. Growers know it will not do to put cranberries into the house in wet condition. I had to dry my entire crop last season. Of course, it is not always the best way, but generally we are compelled to handle the berries in this manner.

My marsh requires cultivation and I give it good attention. I secured most of my vines from Cape Cod. The fruit when ripe is marketed in the Puget sound cities, which generally take care of fair qualities of berries. I remember last year there was much said about cranberry prospects on this coast, but I doubt if there will ever be much done along that line. We can grow good berries here, but there are some drawbacks.

THE STOCK YARD.

Alfalfa in San Benito County.

The basic principle of the dairy business in San Benito county, says the Hollister Advance, is the feed. Land is in endless variety and where it can be reached with water, the soil will grow anything that will grow elsewhere on earth. The standard food is alfalfa which grows here to perfection. Upon land in the San Felipe section, which is unusually well watered, five crops of alfalfa are, upon an average, cut during the season. The first cutting is generally in April and then again every six weeks until the fall, when the fields are pastured until the following spring except during the stormiest weather. In sections, reached by the canals of the Hollister Irrigation Co., four crops will be the average, or about seven tons to the acre. Underground streams of water are abundant in all sections of the county, and to the extension of the pumping system is largely due the development of the dairy business. Due north of Hollister is a 100-acre tract of alfalfa belonging to Daniel McCloskey. From three wells the water is raised 30 feet and carried over the tract in ditches. Steam is the power used with oil as fuel. The oil is laid down at the plant for 72 cents a barrel. A careful accounting shows the cost of irrigating this tract, including labor of irrigating, engineer's wages and so forth, to be $1.25 per acre. Near the McCloskey farm is the Brittingham place, also irrigated by steam power. Three wells furnish water for fifty-five acres of alfalfa at a cost of $1.20 per acre. Upon this place six crops of hay were cut last year. Further south is the forty-acre tract, belonging to R. Hardin, irrigated with two wells and gasoline engine. Still further south, P. J. Dooling, manager of the creamery, has seventy-five acres, irrigated once annually from the irrigation canal and he cuts an average of three crops before pasturing. There are numerous other pumping plants, the owners of which are preparing land for alfalfa or pumping water for the use of others. Anywhere in the valleys water can be obtained at an average depth of 30 feet, and centrifugal pumps easily lift the fluid to the surface. Land suitable for raising alfalfa may be purchased at from $60 to $75 per acre. This is not land upon the irrigating canals, but land upon which water can be developed and pumping system installed. The cost of installation varies from $10 to $20 per acre. The West Side Irrigation Co., an association of land owners, have just completed a plant northwest of Hollister which it is estimated will irrigate 300 acres at a cost of $1.25 per acre.

Careful estimate is given of the number of cows that can be kept up on an acre of alfalfa. Where the growth is vigorous and constant, a cow and a half to the acre will give the animal plenty of feed and allow of storing for the winter, but the average is one cow to the acre. The best cows will net a profit of from $4 to $6 per month or $50 a year upon the average.

Food Value of Kafir Corn.

As we are growing so much Kafir corn in the interior valleys of California, accounts of the food value of the grain are very interesting. Orange Judd Farmer looks into it and remarks that the acreage west of the Mississippi is increasing each year. In a great many cases it is grown entirely for the fodder, and in the semi-arid regions where ordinary Indian corn will not mature on account of deficient moisture, the growing of Kafir corn is very important from the feeder's standpoint. Experiment stations in the West have made extensive tests comparing Kafir corn with ordinary Indian corn, and the Kansas station concludes that under no circumstances has it been found that Kafir corn will not serve satisfactorily as a substitute for Indian corn.

Not So Good as Maize.—The experiments show that bushel for bushel Kafir corn does not have the feeding value of ordinary corn, there being a difference of about 20% in favor of Indian corn when each is fed alone to hogs. However, neither corn nor Kafir corn is proper feed alone, and with some balancing feed like alfalfa, linseed meal or soy bean meal is fed in addition, the difference disappears almost entirely.

This fact, together with the much greater yield of Kafir corn, leaves the Kafir decidedly in the lead. It has practically the same digestive analysis as corn. To each 100 pounds there are 7.8 pounds of digestive protein, 57.1 pounds of carbo-hydrates and 2⅝ pounds of fat. Protein is somewhat deficient in Kafir corn and also in Indian corn; therefore, they must be fed with some other food rich in protein to make up this deficiency. Taking all the experiments made by the Kansas station during the past ten years, it appears that the average yield of an acre of Indian corn fed to hogs will produce 400 pounds pork, while an acre of Kafir corn will produce 487 pounds pork.

Grinding not Necessary.—The mistaken idea that grinding is necessary for the best results with Kafir corn seems to be prevalent among the farmers of the West. Prof. J. G. Haney, formerly assistant in Kansas, states that the tests at that station indicate that it is an absolute detriment to grind Kafir corn even for hogs. He made two tests, including eighty animals, weighing 125 pounds each. The difference in gain was very slight, but in favor of the animals fed the unground Kafir corn. The animals fed the ground Kafir corn made a gain of 8.6 pounds per bushel of corn consumed, while those fed the whole corn gained 8.8 pounds per bushel consumed. He also found that it was a detriment to soak Kafir corn or to apply water to it in any way more than to moisten it in the feed trough.

Best When Used With Other Feed.—In some further tests hogs fed a mixture of Kafir and Indian corn, half and half, made better gains than when either corn or Kafir was fed alone. Hogs fed Kafir corn made a gain of 44 pounds per head in fifty days. When given dry alfalfa hay in addition, they gained 65½ pounds in fifty days. When fed four-fifths Kafir corn and one-fifth soy beans they made a gain of 86½ pounds in fifty days. This gain was made with lots of ten each averaging 140 pounds at the beginning of the experiment. It should be noted that the alfalfa hay used in this experiment was of poor quality. In this test 333 pounds of pork were credited to each ton of alfalfa hay.

Quality of Kafir Corn Pork.—The quality of the pork from Kafir corn-fed hogs was a high-grade. Fifty head were sent to St. Joseph, Mo., and the slaughter test showed that the animals dressed from 79% to 80.4% edible pork. The packing house which had the animals in charge stated that they showed good, firm flesh with an even distribution of lean and fat. The hogs that were fed on Kafir corn meal and alfalfa hay showed fat of a white color, not common in grain-fed hogs. Where Kafir corn was fed whole and alone, the variation in weight was considerable.

Kafir for Milch Cows and Poultry.—Tests with milch cows showed that the best results were secured by feeding Kafir corn and alfalfa hay. In this experiment both the quantity and cost of the feed were taken into consideration in determining results. For young stock the excellent results secured by the Kansas experiment station with skim milk calves were partially due, at least, to Kafir corn, for it was found that no other feed was so economically used, and resulted in making the calves grow as well as this corn. Some calves fed on skim milk and Kafir corn gained two pounds per day from the time they were taken from their dams. This is making money fast enough for anybody.

For poultry, white Kafir corn is preferred to red. The reason for this difference is not clear, but the fowls seem to eat the white better than the red. For winter feeding it is exceedingly satisfactory to place a pile of Kafir corn in the poultry yard and let the fowls pick at it at will.

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Agricultural Review.

Alameda.

MEAN SORT OF SWINDLING.—Livermore Echo: In the past two weeks many people in Livermore and vicinity have been the victims of an ingenious swindle at the hands of a couple of potato peddlers. The potatoes were apparently sold at a very reasonable price per sack, but it was found that a seam had been taken in the inside of the sack, making it several inches less around, so that the sacks would hold only about 70 pounds of potatoes instead of 110 or more. The peddlers drive a covered spring wagon and are said to hail from Alvarado.

Colusa.

PRODUCER OF CORN.—Sun: W. W. Kilgore brought to the office some ears of corn grown by Henry Wehber, his neighbor on Grand island, that was as fine as we ever saw anywhere. One ear measured 11¾ inches of good, sound corn, and the ears were big and heavy. He had a sample of white corn from his field of forty acres that, while not so large as the yellow specimens, was good enough to make one believe that the place where it grew was a good corn country.

DAMAGE FROM RAIN.—A Colusa dispatch under date of October 13th says: The rains of last Saturday and Sunday have caused the Sacramento river to rise rapidly here, and last night it registered 21 feet and is still rising. This is the highest mark the river has reached so early in the season. On the east side the water is pouring through breaks that went out last winter and had not yet been repaired. Prunes that were out in drying yards had to be moved to higher ground. The damage to crops—corn, beans and buckwheat—will amount to from $30,000 to $50,000.

Fresno

RAISIN BUSINESS LOOKING BRIGHTER.—Reedley Exponent: Raisin buyers are becoming very numerous around the county, but a good many of the growers do not seem anxious to dispose of their raisins at the prices offered. Mr. Barsoom, on the Clark place, last week sold his crop to Seropian Bros. for 2¾c per pound. John I. Morgan was offered the same price by the same buyer, but the deal fell through because Mr. Morgan wanted the goods weighed before shipment and to be paid for accordingly, but the company wanted to have the raisins weighed in Fresno. Parties returning from Fresno say that they are offering all kind of prices at the raisin center—2c, 2¼c, 2¼c, and as high as 3c. Several weeks ago O. J. Woodward, the banker, said to Judge Fairweather: "I will not sell for less than 3c," and we believe he will get it, too. The crop is short, the wineries have taken hundreds of tons of grapes that would have been dried for raisins had the association held together this season, and the rains have destroyed a considerable amount of the crop. Aside from this shortage we must take into consideration the fact that the sale of raisins in the retail market is being pushed with vigor that had never before been attempted, the demand being so great at the present time that the packers and seeders have to work overtime to fill the orders sent in. R. M. Williams, on the Smith vineyard near town, is packing his crop of raisins, putting them up in layers and shipping them East. His father, who has a vineyard near Del Rey, is now in the East looking after the sale of the raisins and is meeting with good encouragement. Mr. Williams sees no reason why the growers should not get 3c or over for their raisins this season.

PASSOVER WINE.—The Jewish community of the United States is to have its Passover wine and brandy made in California. With the object of following out the ancient and orthodox method in the making of the wine and brandy, Rabbi H. Grodinsky, rabbi of all the orthodox members of the Jewish faith in Omaha, Neb., and Rabbi Cohn of the Congregation Bransker, New York City, have arrived in Fresno, where the wine and brandy making is to take place. The value of the wine and brandy which will be made in Fresno for the special religious occasion is estimated at $50,000. Three vineyards are under consideration by the rabbis. In the making of the liquor not a Christian hand will touch the grapes or the vats or the barrels which, when filled, will each bear the official seal of the rabbis.

MUST KEEP SHEEP OFF RESERVATION.—A Los Angeles dispatch says: In the United States Circuit Court Judge Wellhorn signed a decree in the celebrated Fresno "sheep cases" granting a perpetual injunction against the defendants which restrains them from driving their sheep across the Sierra forest reservation without permission from the Government office. Marvin Simpson, George Shipp, Frank Estelle, Anderson Blasingame and John Shipp, all of Fresno, were the defendants in these cases, and as they are among the largest sheep growers in the State, the cases have attracted a great deal of attention.

Kern.

NOT GIVING AWAY HORSES.—Bakersfield Echo: Apparently the times are not so bad among raisers of horses. Recently a man came to Bakersfield to buy a work team and spent the day fruitlessly. He couldn't find a sound horse of 1200 pounds or over anywhere that the owner would part with for less than $100. The prices asked for good work horses ranged from $120 to $175, and the owner of two mule teams that are working as a snatch team hauling dirt wanted $450 for them.

CATTLE THIEVES SENT TO SAN QUENTIN.—George Woodward, aged 72, convicted of cattle stealing, was sentenced to seven years in San Quentin prison by Superior Judge Mahon at Bakersfield. His 18-year-old son Charles was given three years in Folsom for the same offense. In sentencing the elder Woodward, Judge Mahon delivered a severe speech, in which he denounced Woodward's act in raising his son to a life of crime after following one for years himself. He said that it would be a mercy to the younger children and their mother to have his evil teaching and example removed from their path. The family lived near Kernville and the arrests were the outcome of detective work by deputy sheriffs.

Kings.

DUCKS BY THE MILLION.—Hanford Sentinel: The Tulare lake land owners are in serious trouble owing to the wild ducks in that part of the State swarming in upon their lake lands and devouring the wheat that is being used for hog feed, and it is feared that in a short time there will be nothing left. The State game law prevents the killing of these birds until after October 15th, and Robert Doherty, one of the lake land owners, is thinking of bringing suit against the State for redress. Mr. Doherty says the ducks, that may be estimated by the million, are eating his wheat so fast that soon his big band of hogs now cleaning up his stubble will have nothing to eat. A few days ago he bought several hundred hogs to add to his already large band, to get the wheat that the harvesters could not get, but he finds the ducks so numerous that they are a pest and are robbing him of his grain. They are big and fat birds, made so by the good feed they have had, and are so numerous as to literally cloud the sky. A farm hand can lie down and wrap himself in a bundle of straw and kill them with a club. Mr. Doherty says he is being eaten up to the extent of $50 a day by the ducks.

Lake.

PRUNES BEING FED TO HOGS.—Healdsburg Enterprise: L. A. Jordan, fruit buyer for the Fisher-Merritt Packing Co., has returned from a tour of Lake county, and says that many of the prune growers there never picked a prune. The prunes are so low that it did not pay them to gather the crop, but instead fed the prunes to the hogs. Lake county produces a fine prune, and the loss will be considerable throughout the county.

Orange.

ORANGE GROWERS MEET.—Anaheim Gazette: Stockholders of the Placentia Orange Growers' Association met at Fullerton some days ago and elected the following board of directors: F. B. Dunham, E. F. C. Klokke, A. McDermott, A. Pierotti, E. S. Richman, H. W. Schultz and F. Thum. The board of directors were authorized to take the necessary steps to extend the incorporation for a period of forty years. It was resolved that the association believes it to be for its best interests to market its crop of oranges through the Southern California Fruit Exchange.

San Bernardino.

NEW CROP ORANGES.—Redlands Facts, Oct. 11: M. S. Croswell, who has a thirty-acre grove, brought to the office a speciment of his new crop of Thompson Improved oranges, which thus early has nearly lost its green color and donned much of the yellow of the ripened fruit. It is of fine shape and size, and about an average, he says, of the coming crop, which he expects will bring him about 60% more than that of last year, which yielded $1600 in profits.

APPLE PICKING AT OAKGLEN.—Redlands Facts, Oct. 12: Apple picking at Oakglen is now in full swing, the fruit being gathered from the I. Ford, Lukens, Wilshire and England orchards. The crop is reported to be short owing to April frosts, but the quality is of the finest. The fruit is large in size, fine in texture and very juicy. It is estimated the yield will be about 100 tons. The Gloria Mundi, Jonathan and Greening brands have already been on the market and the pickers are now busy gathering the Rome Beauties and Bellefleurs. The Winsaps, Ben Davis, Arkansas Blacks and the Pearmains, the last being considered the best keepers, are to come last. The pickers are paid by the day, thus eliminating any desire to rush measures and thus spoil the keeping qualities. The regular ranch help is supplemented by pickers from town, who are generally hoarded by their employers. On Mr. Ford's place a stone cooling house makes a perfect storage place, being admirably ventilated so as to keep it at a uniform temperature. The apples are not taken from the tree while green, as that would induce shriveling, but are gathered before the mellow stage. Mr. Ford states that in June he took apples from the cooling house which were in the finest condition.

GRAPES SUFFERING.—Sun, Oct. 12: Hundreds of tons of raisin grapes are said to be going to waste in the Verdemont district because of the lack of a sufficient amount of sun to dry them. On A. Aurig's place, acre after acre of ground is covered with crates of the best quality of raisin grapes. They have been out for a number of days, but owing to the prevalence of so much cloudy weather, the sun's rays have been unable to reach them except at short intervals. The growers have been waiting patiently and anxiously for Old Sol to save them from great financial loss, but with the weather conditions unchanged from day to day, the situation has become well nigh hopeless. Owing to the discouraging prospects for a profitable yield, the growers are letting a great portion of the second crop of Muscat grapes remain unpicked, so great is the cost of handling them. The price for picking is $3 and an additional charge of $3.50 is made for hauling the fruit.

RIALTO CITRUS FRUIT UNION.—At the annual meeting of the Rialto Citrus Fruit Union, the following were elected directors for the year 1904-5: H. A. Brimmer, J. C. Boyd, L. W. Coleman, O. W. Dalglish, W. P. Martin, J. R. McKinley, Hugh Thornton, W. P. Martin is president, R. L. Humeston secretary. Total number of boxes shipped last season were 58,467, or 165 cars, 26 of the cars being lemons. Total amount paid to the 39 growers who shipped through the union was $40,385.63.

San Diego.

ANGORA GOATS. — Imperial Press: Clarence E. Conant arrived at his ranch south of Imperial Sunday with a band of 1500 Angora goats. They were brought from between Campo and Jacumba and consumed a week on the road. Part of them took French leave, and, crossing the Mexican border, necessitated a long chase. These goats are originally from Angora, Turkey, and live on what other animals would leave. Mr. Conant expects to find plenty of cheap feed in the valley for them. The kids are used for meat and the fleeces of the older goats are valuable.

San Joaquin.

MONEY IN CHESTNUT ORCHARD.—Stockton Mail: Stockton and Livermore are the first shipping points to market Italian chestnuts this season in San Francisco. The growing of chestnuts is comparatively a new business here, but there are very profitable orchards on Roberts island, Rough and Ready island and near Banta. There are also thrifty trees on the old Kidd ranch and on a tract a short distance this side of Woodbridge. The nuts are selling in San Francisco at 15@ 20c a pound, and as full grown trees yield from 150 to 250 pounds each, the profit can be calculated readily. Mrs. Fogacci, on Rough and Ready island, has a pet tree which gives an enormous yield of excellent chestnuts. Having planted it herself, she sees it has the best of culture, and claims the proceeds as pocket money. One season the yield sold for $196.60.

Santa Barbara.

BAD OUTLOOK FOR BEAN MEN.—Sun, Oct. 10: The outlook for the bean men is very discouraging. A large part of the crop is out in the mud. Tramping, the usual method of threshing beans, has been impracticable since the first rains over two weeks ago, as the weather has been damp and the pods too tough. The steam thresher has been at work and finished a few lots, working a part of a day at a time. A small machine run by a gasoline engine has been used by Philip Marhle, his own beans and D. W. Campbell's being nearly finished by working afternoons. The rain of Thursday night stopped everything, and all beans unthreshed will be a total loss unless we have drying weather very soon.

Santa Cruz.

IMPORTANT TO ORCHARDISTS.—Watsonville Pajaronian: Horticultural Commissioner C. H. Rodgers has received from Deputy State Horticultural Commissioner E. M. Ehrhorn of San Francisco a letter stating that he is daily expecting a consignment of the parasite of the codlin moth, and asking for the names of orchardists who will volunteer to leave the bands on their fruit trees until they get full of codlin worms and then forward them to him in San Francisco. The object of procuring these bands is to allow the parasites to feed upon the worms during the breeding period. Mr. Ehrhorn will breed the parasites of the codlin moth extensively and distribute them about the State.

Sonoma.

RAIN DAMAGE.—Windsor Herald, Oct. 15: It is estimated that the last rain cost Healdsburg $30,000 in destruction of grapes. The total amount of rainfall in Healdsburg for September and October is 10.69 inches. But once in the history of that town has the rainfall been heavier for the same season, in 1889, when it reached 12.75 inches. At Windsor the damage was not so heavy. W. L. Cunningham suffered severely; he lost nearly 100 tons of grapes, valued at $1500. It is impossible to give an estimate of the damage to Russian River township. Good guessers place it all the way from $25,000 to $75,000.

FALL WOOL SALES.—Healdsburg Enterprise: Several sales of the fall clip of wool have already been made by growers in this section. The two clip sold are those of Wm. Rowland and Clarence Hall. It is authoritatively reported that 17 cents was paid. This is considered the highest price paid for fall wool in many years. The clip is clean and of excellent texture.

LARGEST POULTRY RANCH IN THE WORLD.—George L. Russell of Petaluma is fitting up what is claimed to be the largest poultry ranch in the world at Hamlet on the line of the North Shore Railway, in western Sonoma county. He is planning to have 12,000 chickens quartered in light, dry, cheap houses, containing fifty each. He will employ three men, and expects to raise alfalfa, chop, cook and feed it to the fowls for a large part of their diet. He figures each hen costs him $4 yearly and nets him $1.50, and that an acre of land will support 300 hens in a very satisfactory manner.

DAMAGE TO POTATOES.—Farmers of Sebastopol say that the heavy rainfall is going to rot a great many potatoes not yet dug. In lowland fields the loss will be larger than on higher ground. Sonoma county people usually have an abundance of fine potatoes.

PEAR ON APPLE STOCK.—By grafting a pear branch into an apple stump, J. C. Richie has produced a fruit having the peel of an apple and the bell shape of a pear. It measures 15 inches in circumference and is 14½ inches from stem to blow end.

Stanislaus.

LARGE ACREAGE TO GRAIN.—Oakdale Leader: The indications are that a large acreage will be sown to wheat and other cereals in this locality this season. Owing to the early rains, seeding will commence at once or as soon as the soil is sufficiently dried. Among the more extensive grain growers is A. N. Moulton, who has leased the Leitch ranch north of the Stanislaus river, having 600 acres of summer-fallow and 400 acres of winter sowing which he will commence to seed within a few days. While the fruit industry and diversified farming is rapidly growing in importance and already brings large returns, it is probable that grain raising will afford the chief resources of this section for years to come.

Sutter.

BEANS AND BUCKWHEAT.—Independent: Late reports from No. 70 district are that the bean and buckwheat men will lose heavily. Several hundred acres were planted to these crops on the John Markley ranch, and it is Mr. Markley's opinion that his renters will lose a large portion of their crop. As an instance of what these bean men will lose, Mr. Markley stated last night that a San Francisco buyer was out to call on him at his ranch a few days before the storm set in and told him if his renters could harvest their crops they would realize not less than $100 per acre. A dry north wind would help matters, but will not save the entire crop.

Tehama.

BLOSSOM RANCH SOLD FOR $110,000—Red Bluff News The Blossom ranch of about 26,000 acres, situated west of this city, has been sold to the California Realty Co. for $110,000. This large tract of land is part of the estate of the late Robert H. Blossom, and includes a great quantity of fine farming land, most of which would find a ready sale if put upon the market. It is a fine grazing ranch, and since the death of the former owner has been leased to several parties for pasture. In Mr. Blossom's lifetime it was farmed extensively and raised large quantities of wheat.

The Home Circle.

Buttermilk.

Some people long for lemonade,
And some for fancy drinks,
And some for soda—with the aid
Of sundry wicked winks—
But when the sun is fierce and high,
'Tis then my fancies turn
To buttermilk; 'tis then I sigh
For nectar from the churn.

Somewhere on earth there still must be
A "spring house," deep and low,
Half hid beneath a willow tree,
Whose boughs sweep to and fro,
And whisper to the rills that gush
Between the roots, and turn
To loiter in the shadowed hush
Where stands the sweating churn.

A dipper hangs upon the wall
To rob that soothing hoard—
But better, better yet than all,
Perhaps there is a gourd!
No votary has ever poured
Libations from an urn
Like buttermilk held in a gourd,
Raised from the roomy churn!

Ah, can there be a finer thing!
It's sweet as honey dew!
The water rippling from the spring
Is laughing back at you
While merrily it drips and drips,
Through watercress and fern—
You taste the tang upon your lips
Of nectar from the churn.

Forgotten then are draughts of wine
That all the senses cloy,
And you your happy soul resign
To deep drawn breaths of joy.
And he who does not know of this
Has one glad truth to learn;
That buttermilk is liquid bliss
When ladled from the churn.

—Addison Ballard.

Eloise's Inheritance.

It was a bitter night in November, a promise of a eold, dreary winter to come, when two gentlemen, some thirty-eight or forty years old, sat over wine and cigars in a luxurious room in an uptown boarding house, in New York city. One, the youngest of the couple, had landed a few hours before from a European steamer, and had been telling traveller's tales to his companion, far into the night hours.

"Rich?" he said, in answer to a question. "No, but little richer than when I left here. But I have gained experience and knowledge in my Paris life. There is nothing like the French schools and hospitals for a doctor. Bert, I would not take thousands of dollars and miss the last four years."

"But you are glad to come home, Cyrus?"

"Home?" said Cyrus Worthington, with a short, bitter laugh. "This is my home, a room in a boarding house, and I ehose this beeause you were here, my old friend and chum."

"But your relatives?"

"I do not know of one. Doctor Worthington took me from a charity school when I was six years old, because I had a curious variation of scarlet fever he wished to study out at leisure. I was an odd child, smart and active, and before the fever was cured he became fond of me and adopted me. We must have been a strange pair, Bert—the old bachelor, wrapped up in his profession, and the elfish, half starved foundling. But we were very happy. Until I went to Harvard, where we met, my benefaetor educated me himself, and I devoured books. I had no one to love, and books filled the craving of my heart, so I studied everything before me, including the medical works in the library. You won't believe me, I suppose, if I tell you I could use a dissecting knife before I was twelve ycars old."

"I do not doubt it. We all eonsidered you a prodigy of learning at Harvard. By the way, how did you ever come to leave the doctor for college?"

"He desired it, distrusting his own powers of tuition after I passed seventeen. When I came home, as you know, I became his partner and assistant until he died, leaving me thirty thousand dollars, and I fulfilled my lifelong desire and went to Paris."

"Was that all that drove you to Paris? No love dream, nor fair companion on the steamer?"

"None. I am heart-whole at thirty-eight. Can you say as much?"

"Not I. My heart is as full of holes from Cupid's dart as a skimmer. My last love, though, is the sweetest maiden that ever won a heart with soft eyes and golden curls. You shall see her. In all your travels you have seen no fairer face than Eloise Hunter's."

Over Cyrus Worthington's face came a startled look that was almost terror.

"Eloise Hunter," he cried; then added, with a foreed carelessness, "it is a pretty name. Who is she?"

"The daughter of my landlady. Did I not mention her name when I wrote you I had secured rooms for you here?"

"No."

"Well, that is her name. She is the widow of one Daniel Hunter, who died, leaving her without one dollar, having squandered her fortune as well as his own. Not a bad man, I judge, but one who was wickedly reckless in using money. Well, he is dead, and his widow keeps this house!"

"And this daughter—how old is she?"

"Nineteen or twenty, I should judge. She is so little and fair she looks like a child. You are tired, Cy."

"Very tired."

"You are as pale as death, I will leave you to rest. Pleasant dreams."

Pale as death, and with his large, dark eyes full of startled light, Cyrus Worthington paced the floor after his friend retired.

"It is fate!" he muttered. "Destiny. What accident could throw that girl across my path three hours after landing in New York? Eloise, only daughter of Daniel Hunter. It makes me dizzy to think. If after all I am to grasp what I have coveted for years! Patience, patienee!"

He paced the room for hours, till the gray dawn erept in at the window, when he threw himself upon the bed for a few hours' repose. A man of iron will, of steady nerve, he had been assailed by the strongest, fiercest temptation of his life, and he wakened only to renew the mental eonfliet.

A late breakfast was presided over by a pale woman abouty forty, his landlady, but there was no sign yet of Eloise. Feverishly desirous to see her, to form some estimate of her from his own observations, Cyrus Worthington lingered in the house all day.

He was a man who once having resolved upon any course of action, could not be turned aside by trivial or by weighty opposition, and he had resolved to marry Eloise Hunter, never having seen her faee or heard her voice. So with this purpose in his heart, he threw all other considerations to the wind, and waited to make the first move in this game of life, for two.

Educated, as he had said himself, by a man whose soul was wrapped up in his profession, the scholar had absorbed much of the teacher's enthusiasm. But, while Doctor Worthington looked steadily at the nobler aims of his profession, the power to alleviate suffering, to aid mankind, Cyrus loved it for its more abstruse investigation, its scientific scope, its broad field for self-aggrandizement. To make a name in the medical and scientifie world, by some new work of value, to be known as the great Doctor Worthington, was the end of all his study and research. But his ambition was second to his avariee. Not for money itself but for free control of the luxuries money will procure, he longed for wealth; not merely comfort, that his own ineome secured, but riches, power to live in a palace with scores of servants, with luxury in every appointment, and money to spend freely in the pursuit of those seientific studies for which he had an earnest love, and from which he had derived all his dreams of fame.

A man in perfect health, who had never injured an iron constitution by any excess, of hard, keen intellect and strong will, he was a dangerous wooer for fair Eloise Hunter, a lily in her fair, sweet beauty, with a delicate constitution, timid to a fault, and modest as a violet.

He was in the drawing room in the afternoon, reading a novel, half hidden by the folds of a curtain, when he saw a lady coming across the soft carpet, who he felt sure must be Eloise Hunter. Small as a child of fourteen, exquisitely fair, with a wealth of golden eurls caught from a low, broad brow, a sweet, childlike mouth, and purely oval face, she was as lovely a vision of girlhood as ever man's eyes rested upon.

Yet Cyrus Worthington, studying the face, unseen himself, though only,—

"How weak, timid, easily influenced!"

Not one thought of the wrong he was to do her dawning womanhood troubled him. Whatever seruples of conscience had troubled his night's vigils were all crushed under the iron heel of his will, and there was no thought now of turning back from this purpose. While his eyes still rested upon her face, Eloise opened the piano, and from the little taper fingers flowed the music that comes by divine gift, the outpouring of inspiration. It moved even Cyrus Worthington, no mean judge of the wondrous execution of the girl's fingers, or the power of her genius. From a heart full of sadness eame wailing melodies, melting into dying cadences, full of tearful meaning! then slowly there gathered on the sweet lips an intense smile of wondrous radiance, and the minor passages were changed to tender, rippling airs, happy as an infant's smile, till some glorious chords of grand harmony eompleted this true maiden's dream.

It was evidently holiday work, for with a sigh Eloise took a book of alarming-looking exercises from the music rack, and began to praetice in real earnest.

Cyrus Worthington drew further back in the folds of the curtain, and resumed his novel. An hour flew by, and then Mrs. Hunter came in.

"Five o'clock, Eloise, and pitch dark. Are you practieing properly in the dark?"

"I know these lessons by heart, mamma," the girl answered in a low, sweet voice, with a shade of weariness in the tone.

"Don't waste time, darling," the mother said anxiously; "you know I cannot pay for many lessons, and next year you must try to find scholars."

"I wish you would let me help you more," was the reply; "it seems wicked for me to be studying and practicing while you have so much eare and work."

"You will help me soon. But I want you to be independent, Eloise. I may die, and you could not run this great house, but you could teach. Go upstairs now; the gentlemen will be coming in soon to dinner."

"Did the boarder come last night?"

"Doetor Worthington? Yes, dear! Mr. Loring tells me he is a great physician, author of some medical books, and wonderfully skillful. He is well off, too!"

"Oh, mamma, if he could help that pain!"

"No, dear, no, we will not trouble him with our aehes and pains. There, dear, run up-stairs; I will send Maggie for you when I eat my dinner."

Then the parlor was empty, for Cyrus sauntered off to his own room when Mrs. Hunter and her daughter were gone.

He was not many days an inmate of Mrs. Hunter's house before he discovered that it was not that lady's policy to parade her daughter to her boarders. The girl lived like a nun, in her own room nearly all day, praeticing at an hour when the gentlemen were away, and the ladies lying down, or out.

Yet with his resolve in full force, Cyrus Worthington contrived to see Eloise very frequently. He would bend his great dark eyes upon her face, and hold her faseinated for hours by the eloquence with which he spoke of musie, of poetry, of all the girl-soul worshipped. He drew from her the story of the pain her mother suffered around her heart, and delicately offered professional service, where his skill availed to bring relief, thus making one step by winning the gratitude of mother and child.

But while his own heart knew no more now than before the sweetness of love, he read in Eloise's eyes none of the emotion he hoped to kindle there. Heart-whole himself, he had not been without conquests in his selfish life. Women had owned the magnetie power in his great, dark eyes, his rich voice, the winning eloquence of his tongue. Belles whose conquests were of well-known number had let him read the love he wakened in their eyes, and flirts had owned themselves beaten at their own game.

Yet this shy violet, this little recluse, liking him well, gave him no part in her heart.

One word from Bert Loring, one glance of his blue eyes, would eall up flying blushes to the fair cheek that all Cyrus Worthington's eloquence failed to bring there.

But Bert, though older than his friend, had been an unsueeessful man. A poet by the gift of God, he was almost a pauper by non-appreciation of man. Just the tiniest patrimony kept him from aetual want, but though he had a hall room at Mrs. Hunter's, his boots were often shabby, his clothes well worn, and his purse lamentably slender.

And Mrs. Hunter seeing Doetor Worthington in her best room, prompt in payment, faultless in costume, with a certainty of thirty thousand dollars, and a possibility of greater wealth, in the praetiee of his profession, encouraged his attentions to Eloise, frowning upon poor, loving Bert, who, in spite of his jests about his well-riddled heart, gave the young girl true, loyal love.

It was the old, old story, and Eloise, torn by her filial affection and her girl love, was growing pale and wan as the winter wore away. There was no coercion: Mrs. Hunter loved the only child of her heart too well for that; but loving her she could not give her to poverty and Bert Loring, and one day when Bert pleaded his eause she told him,—

"Doetor Worthington asked me this morning to give him Eloise. I like you, Bert. You are dear to me as a son, but we must think of the child above all. You know how dreamy, sensitive, and helpless Eloise is. You know that hard work would be murder for her. She lives in her musie, her books."

"And her love! She lovesme," interrupted poor Bert, a boy yet in many tender phases of his nature.

"And you, loving her, would you see her toiling, slaving, starving, as a poor man's wife?"

"You put it harshly."

"I put it truly. While I can keep this house up you are welcome to a home here, but any day I may die. These heart-spasms mean a certain death some day, Bert. Then where are you to take Eloise?"

"I will work for her."

"Work first, then, and woo her afterward. My poor Bert, you are too like her to marry her. Could I but give you wealth, you could live in a poet's paradise, you and Eloise, never growing old, two grown-up ehildren. But we are all poor. Do not torture her, you who love her. Go away and let Doctor Worthington win her."

"She will never love him."

"Not if you are here."

"I will go then. You will let me tell her?"

"Why? It will only make her life harder, if she thinks you suffer. I will never force her to marry. But—if Doetor Worthington can win her, I tell you frankly, it will make me very happy."

So Bert—honest, loyal Bert—for his very love's sake, turned his face from his love and went to another city, where he was offered a position as assistant editor upon a magazine, that was to be a fortune in the future, but in the present was rather a log on the neeks of the proprietors.

And Eloise, wondering at Bert's desertion, knew all the sunlight was gone from her life when he said farewell. There had been no secret in Bert's parting with his friend Frankly he had told his hope, love and despair, and pathetically implored him to cherish Eloise lovingly, if he could win her love.

Even while he spoke, Cyrus Worthington knew that this love would never come to answer his wooing, knew that one word of his could flood two lives with happiness, yet kept silence. In

the days that followed, when he wooed the fair, pale girl, tenderly, devotedly, no pang of remorse wrung his heart, though he knew he trod carefully upon all loving flowers of hope in hers. He was a man who could have seen his own mother writhe in agony, if by her torture he could have wrung one new fact for science, and in the scheme of his life the heart-pangs of a girl counted for less than nothing.

And while he courted the unwilling love patiently and gently, Mrs. Hunter, with her failing health, her pale face and weary step, pleaded eloquently in her very silence. A home of rest for her mother was what Eloise had been promised in delicate words that could not be resented as a bribery.

"Your dear mother may live for years in a quiet house, but this constant care and toil is killing her!"

So, little by little, wearing out the young heart's constancy by steady perseverance, Cyrus Worthington won Eloise for his wife. She told him she did not love him, but knowing nothing of Bert's spoken love to her mother, she kept her maiden secret folded close in her own heart, and whispered nothing of her love for Bert. If on her wedding day her white, drawn face was corpse-like in its forced composure, what cared Cyrus Worthington for that? He had won his game.

Only one week after his wedding day, leaving Eloise with her mother, he wended his way to the office of a leading lawyer and asked for an interview.

"You were lawyers for Gervase Hunter?" he asked.

"We were."

"You are aware that he died in Paris last September?"

"We were not aware of that. Our business has not required correspondence since that time."

"I was his physician, and to me he committed the care of all his papers, his will among the number."

"H'm, making you his heir?"

"No, sir, making his nephew's only child heiress to his wealth, nearly a million, I understand."

"Nearly double that sum. You will leave the papers?"

"Assuredly, and Mrs. Hunter's address. Miss Hunter became my wife one week ago. I leave you the address of my assistant in Paris, the lawyer who drew up the will, and the witness, that you may ascertain that all is correct."

And, unheeding the lawyer's keen, scrutinizing looks, Cyrus Worthington bowed himself out of the office.

"A bold game," the lawyer muttered; "he has played his cards well."

And while he spoke there was a noise in the street, a rush of many feet, a clattering fall.

"A scaffolding on the house next door has given way," a clerk cried with a white face, "and there are men killed. Nine or ten, they say."

Nine or ten bricklayers, masons, carpenters, and one gentleman who had been passing by, and in whose face the lawyer recognized the features of his late visitor.

Dead, with his scheme complete. Dead, with the road to his ambition, gold-strewn open before him. Dead, with his hand upon the wealth he had planned to win. Dead!

They carried him home to his young wife, and tenderly broke the truth to her. Even in the first shock she felt her heart recoil when the lawyer told her of the errand completed two minutes before her husband's death. She had not loved him, but had she never known his baseness she could have mourned a kind friend lost.

It was two years before Bert came to share her home, to fill the paradise her mother had painted. But in their happiness they gave Cyrus Worthington's name the charity of silence. Never is it spoken by the wife he deceived or the friend he wronged.—Waverley Magazine.

Step Savers.

A convenience is a strong, light table that can be easily moved about wherever needed.

Sheet zinc, laid over edges and tacked firmly in place, makes a table covering that is easily cleaned and is not injured by hot cooking vessels, which may be removed from the fire to such a table.

One trip to the refrigerator or cellar for butter, lard, milk and eggs, and one's baking is accomplished with the fewest possible steps.

All cupboards should be kept dry and free from dust and crumbs. In cleansing them use clean cloth, clear, warm water, in which is dissolved a spoonful of borax or soda. After thoroughly drying, your cupboards will not have that lingering musty odor that often follows the use of soap.

Care of the Teeth.

"A pearl in the mouth is worth two on the neck," is an up-to-date adage which women would do well to ponder over. A woman of many charms will often fail of impression if her teeth are not delicately clean and whole.

There are many factors which go to determine the soundness of one's teeth, but none more potent than that of use. Good vigorous action is necessary in order that a supply of blood may be called to the teeth to nourish them.

Give a muscle no exercise and the veriest novice knows it will get soft. Give the teeth no work and they become chalky and an easy prey to decay.

Too much cooking of food and the use of soft, prepared dishes have had much to do with getting people out of the habit of chewing. Those who live on coarse foods requiring thorough mastication have the perfect teeth of animals, white and hard and even. The blood supply is perfect on account of the stimulation given by thorough exercise of the jaws.

The higher the civilization, the worse the teeth. For not only do people eat food which is too greatly refined to require chewing, or soft and mushy from over-preparation, but they also eat sweets and condiments, and worst of all, perhaps, they overeat.

"The use of sugar," said a dentist whose reputation is world wide, "is bad in two ways. It not only promotes fermentation in the mouth, but it creates a false taste, which will have to be satisfied with other things equally detrimental and unneeded. And they who eat more food than necessary never can have a naturally cleansed mouth, for the saliva is provided to dissolve perfectly only the food the body needs.

"For the many who do not or cannot regulate their habits so that their teeth are kept naturally in good condition, there are many simple helps which do much to counteract any bad tendencies. Cleanse them thoroughly with a plain preparation of chalk and orris root, using tepid water and a stiff brush. This should be done after every meal. At least once a day examine them thoroughly with the aid of a mirror to make sure that they are properly freed from all food particles. When you are having dentistry done, be sure to see that a space is left between the teeth sufficient to allow you to pass dental floss (common sewing silk will do) back and forth to dislodge any food that may get in. A good dentist should see to this, and also that there are no jagged edges to break and cut the silk and prevent its free movement. But the mouths of nine out of every ten people who have had extensive work done show an opposite condition of affairs.

"The necessity for clean teeth at night should be especially borne in mind. This will prevent the growth and development of micro-organisms in the mouth. These are generated most rapidly during sleep, while the person is quiescent. They cause putrefaction and decay of the teeth.

"When teeth require filling they are often acutely sensitive on account of high acidity of the saliva, and very great pain results from any work done on them. This may be largely obviated by the use of an alkaline wash in the mouth for two or three weeks previous to a visit to the dentist. A tiny pinch of common baking soda, bought at a druggist's, to insure purity, is dissolved in a quarter of a glass of water and used to rinse the mouth thoroughly night and morning."—New York Tribune.

"MONARCH" HAMS.



These are the Hams,
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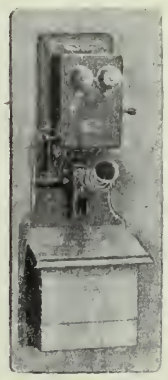
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The Markets.

San Francisco Produce Report.

SAN FRANCISCO, October 19, 1904.

CHICAGO WHEAT FUTURES.

Wheat futures in Chicago were as follows for the week named, price being for No. 2 Red per bushel:

	Dec.	May.
Wednesday	$1 08⅞@1 10⅛	$1 09 @1 11
Thursday	1 11⅛@1 09⅞	1 11¼@1 09¾
Friday	1 09⅞@1 13	1 09⅞@1 12⅛
Saturday	1 12¾@1 14¼	1 12 @1 13
Monday	1 13¼@1 11⅞	1 12⅛@1 11
Tuesday	1 11½@1 14⅝	1 10½@1 12¾

CHICAGO CORN FUTURES.

Prices of futures on No. 2 corn per bushel in Chicago were as follows for the week:

	Dec.	May.
Wednesday	48¼@49¾	45⅝@46¼
Thursday	50 @49⅛	46⅜@45⅛
Friday	48⅞@50½	45¼@46⅛
Saturday	50⅜@49¼	46 @45⅜
Monday	49 @47⅜	45¼@44⅜
Tuesday	47½@48⅝	44⅜@45¼

SAN FRANCISCO WHEAT FUTURES.

The range of values in San Francisco for No. 1 White wheat per cental was as follows:

	Dec., 1904.	May, 1905.
Thursday	$1 50 @1 49	$1 51¼@1 50
Friday	1 49½@1 50	1 51 @1 51¼
Saturday	1 50⅜@1 49⅞	1 51½@1 51⅝
Monday	1 49¼@1 48⅞	1 50⅜@1 50⅛
Tuesday	1 49⅝@1 49¼	1 51⅛@1 50⅞
Wednesday	1 49¾@1 49¼	1 51⅛@1 51¼

Wheat.

Tho market has presented a generally firm tone sinco last report, although in the matter of quotable values for spot wheat there have been no special changes. Options here were at a little higher rango than preceding week, and in Chicago there was a pronounced improvement in speculative values, December and May wheat gaining 5c. per bushel inside of four days. The outward movement from this port continued light, although one full cargo of noarly 3800 tons, valued at $109,000, was cleared for Europe the past week. This is the first straight wheat cargo from here the current season, and is a greater quantity than previously forwarded during the present cereal year. Most of the wheat going aboard ship represents importations from the North, California having little if any more than enough for homo needs. In nearly all parts of the world stocks of wheat are comparatively light. Indian wheat shipments last week were 1,288,000 bushels, against 1,304,000 previous week and 1,280,000 last year. Argentine shipments were 704,000 bushels, against 576,000 previous week and 176,000 last year. Australia has exported of last crop over 4,000,000 quarters of wheat; the exportable surplus was figured at harvest time at 5,600,000 quarters. The wheat crop in Manitoba and the northwest provinces is expected to be between 55,000,000 and 60,000,000 bushels: last year about 56,000,000 bushels was the crop. The total Canadian crop will not be much over 70,000,000 bushels, against about 79,000,000 last year. This year's wheat acreage in England is the smallest ever known, having shrunk from over 3,500,000 acres thirty-five years ago to 1,375,000 acres this year, or 13% less than last year. The only year which has approached the present in small acreage is 1895, when there was a little over 1,400,000 acres. The barley and oats aercage is now over four times as much as that under wheat. As a well-known agriculturist has put it. the whole wheat growing area of Great Britain might now bo crowded into the second largest county in England, and yet leave room to spare.

California Milling	$1 50 @1 62½
Cal. No. 1 shipping, alongside	1 45 @1 47½
No. 1 Oregon Club	1 45 @1 47½

PRICES OF FUTURES.

During past week the range on options was:
Decemher, 1904, delivery, $1.48⅞@1.50⅜.
May, 1905, delivery, $1.50@1.51⅛.

Wednesday, at the forenoon session of Exchange, December, 1904, wheat sold at $1.49¾@1.49¼; May, 1905, $1.51½@1.51¼.

Ocean freights and prices for wheat, as compared with a year ago, are as follows:

	1903-04.	1904-05.
Liv. quotations	-s-d@-s-d	-s-d@-s-d
Freight rates	11¼@14s	22@—s
Local market	$1 40@1 42½	$1 45@1 47½

Flour.

Decidedly heavy shipments have been madc lately to the Orient. The last two steamers sailing from here for Asia, and departing within a week, carried a total of 50,161 barrels flour, 47,135 barrels being destined for Hongkong. There is a moderate movement to Central and South American countries. Local businoss is of fair average. Desirable makes are being steadily hald.

Superfine, lower grades	$3 25 @3 50
Superfine, good to choice	3 50 @3 75
Country grades, extras	4 25 @4 50
Choice and extra choice	4 50 @5 00
Fancy brands, jobbing	5 00 @5 25
Oregon, Bakers' extra	3 75 @4 25
Washington, Bakers' extra	3 75 @4 40

Barley.

There are no heavy offerings of any description, and for good to choice brewing and feed the market is firm at ruling rates. There is a fairly active export demand, and that there will be any necessity of carrying over any barley into next season is not likely. Business thus far this season has been almost wholly in the common variety of barley, Chevalier being generally held above the bids of shippers. At current quotations all the Chevalier in the State suitable for export could doubtless be promptly placed. This variety is ruling much lower than a year ago, being thon quoted at $1.37½@1.45 for good to choice, or about $4 per ton above present quotations. Feod barley was a year ago commanding $1.12½@1.17½, and No. 1 to choice browing $1.20@1.25. Freo purchascs at this date are not possible at current quotations.

Feed, No. 1 to choice	$1 11¼@1 12½
Feed, fair to good	1 07½@1 10
Brewing, No. 1 to choice	1 12½@1 20
Chevalier, No. 1 to choice	1 20 @1 25
Chevalier, common to fair	1 00 @1 10

Oats.

Offerings aro largcly feed descriptions and current values for same are being well maintained. Seed oats continue in light supply and aro bringing stiff figures. Prices for all kinds of oats are on an averaje fully $2 per ton higher than at corresponding date last year. That there will be any weakening of values during the balance of the season is very improbable.

White oats, fancy feed	$1 50 @1 55
White, good to choice	1 37½@1 45
White, poor to fair	1 27½@1 35
Milling	1 45 @1 50
Black oats	1 30 @1 65
Red, fair to choice	1 25 @1 50

Corn.

Receipts have been showing somo increase, but arrivals are mainly Eastern product. Most of the imported offering is of rather ordinary quality, and for such stock the market is not showing any special firmness. Choice corn is not to be had in noteworthy quantity at top quotations. A shipment of 5110 centals corn was made Saturday last per steamer to Central America.

Large White, good to choice	$1 42½@1 47½
Large Yellow	1 42½@1 47½
Small Yellow	1 60 @1 65
Egyptian White	—— @——
Egyptian Brown	—— @——
Eastern, in bulk	1 32½@1 42½

Rye.

There are only moderate offerings and advanced figures aro being asked.

Good to choice	$1 37½@1 42½

Buckwheat.

Market is bare and consequently there is little upon which to base quotations. Good to choice nominally quotable at $1.90@2.25.

Beans.

There has been an active domand for good to choice beans at advanced prices, with offerings light. Large quantities of this year's crop have been very badly damaged or wholly ruined. Market is decidedly strong for beans showing primo to choice condition.

Pea, fair to good, 100 lbs	$2 75 @3 00
Small White, good to choice	3 15 @3 40
Large White	2 40 @2 75
Pinks	3 10 @3 30
Bayos, good to choice	2 75 @3 00
Red Kidneys	4 50 @5 00
Reds	4 00 @4 50
Limas, good to choice	4 20 @4 25
Black-eye Beans	2 50 @2 75

Dried Peas.

Some Green and Niles Poas are arriving from Humboldt, all more or less damp. Both varietics are selling at about same figures. Choice would command an advance on quotations.

Green Peas, California	2 25 @2 50
Garbanzos, Large	3 25 @3 50
Garbanzos, Small	3 00 @3 25
Niles	2 25 @——

Hops.

Thero are few hops offering from first hands and market continues unfavorable to buyers. It is reported that there are now in this State loss than 2000 bales under the control of growers. M. H. Durst of Wheatland reports having sold on October 7 a lot of 1500 bales to a London dealer at 30c f. o. b. cars at shipping point. The Durst yards this year yielded 5645 bales on 530 acres. The New York Producer's Price Current says: "In New York State the buying has been very heavy, but only for American account. The Western dealers seem to have been the heaviest buyers of late, which seems to show that the Western brewers are pleased with the State quality. Large quantities have been dealt in and two of the larger counties aro practically cleaned up. It is indeed a rare occurrence in the hop trade that at this stage so many hops should have passed out of growers' hands as is the case this year. As high as 35c has been paid for fancy growths and from 30c to 33c for lower grades. The London market continues firm, but it is reported that the English growers are obstinately refusing the offers which are being made by the dealers. In Germany a strong and steady market prevails at unchanged prices."

California, good to choice, 1904 crop	28 @31

Wool.

The same firm tone previously noted is prevailing in the wool market, but there is not much wool changing hands in this center, for the plain reason that it is not offering, most of the purchasing being done in the interior, and in some instances at relatively stiffer figures than dealers will bid here.

SPRING.

Northern, free	22 @—
Northern, defective	17 @20
Oregon, good to choice	20 @22
Nevada	15 @20

FALL.

Northern	14 @18
San Joaquin and Southern, free	12 @15
San Joaquin and Southern, defective	8 @10
Southern lambs, as to quality	8 @14

Hay and Straw.

For good to choice hay the market inclines against buyers, as all the stock of this sort has to be now drawn from warehouses, where storage expenses have attached. There is considerable hay offering in damaged condition and for this sort the market is slow and weak. Straw is ruling stoady at the quotod advance.

Wheat, good to choice	$14 00 @ 15 00
Wheat and Oat	11 00 @ 14 00
Tame Oat, fair to choice	8 00 @ 13 00
Wild Oat	8 00 @ 11 00
Barley	9 50 @ 12 00
Alfalfa	9 00 @ 11 50
Stock hay	5 00 @ 7 00
Compressed	13 00 @ 15 50
Straw, ℔ bale	55 @ 70

Millstuffs.

Bran is in larger supply than required for immedlate demand, but holders are not making any very pronounced concessions to buyers. Middlings are in only moderate stock and not very active request at full current figures. Market for Rolled Barley is ruling steady. Asking prices for Milled Corn are without special change.

Bran, ℔ ton	$19 00 @ 20 00
Middlings	24 00 @ 27 00
Shorts, Oregon	20 00 @ 21 00
Barley, Rolled	23 00 @ 24 00
Cornmeal	32 00 @ 32 50
Cracked Corn	32 50 @ 33 00
Oilcake Meal	31 50 @ 33 00

Seeds.

Alfalfa Seed is scarce and wanted; in a small way 16c per pound is obtainable. Mustard Seed market is firm for both Yellow and Trieste, with offerings light. Of the other seeds quoted herewith thero are no heavy quantities on market at present.

Flax	$1 80 @ 2 35
Mustard, Yellow	3 50 @ 4 00
Mustard, Trieste	4 50 @ 5 00
	Per lb.
Canary	7 @—
Rape	1¾@ 2½
Hemp	3½@—
Timothy	5 @ 5½

Honey.

Trade is mainly of a light jobbing character and at generally unchanged values. Select water white is not in large supply and is being rather firmly hold. Thcre is considerablo amber honey on the market for which custom is being sought, including some of ordinary quality from the Hawaiian Islands, tho bees foeding on sugar water.

Extracted, White Liquid	6 @ 6½
Extracted, Light Amber	5 @ 6
Extracted, Amber	4 @ 4½
Extracted, Dark Amber	3½@ 3¾
White Comb, 1-frames	12½@13
Amber Comb	9 @11

Beeswax.

Not much in stock. Thero is a fair demand, both on local account and for shipment.

Good to choice, light ℔ lb	29 @30
Dark	27 @28

Live Stock and Meats.

Choice Beef is in good request at full current figures, but demand for common grades is slow. Market for Veal is not showing any special firmness, receipts being fairly liberal. Prices for Mutton are without any quotablo change, but for tho general run of offerings the demand is not particularly active. Lamb is in fair supply and values steady. Hogs desirable for packing continuo to meet with prompt sale at quotably unchanged values.

Allowing for the shrinkage of about 50%, which is exacted in buying cattle on the hoof, live cattle command as much or more per pound than dressed beef, the shrinkage exacted being the slaughterers' profit.

The following quotations for beef and mutton are based on prices realized hy slaughterers from wholesale dealers:

Beef, 1st quality, dressed, net ℔ lb	6 @ 6½
Beef, 2nd quality	5 @ 5½
Beef, 3rd quality	3 @ 5
Mutton—ewes, 6½@7c; wethers	7 @ 7½
Hogs, hard grain, 140 to 200 lbs	4⅝@—
Hogs, large, hard, over 200 pounds	4⅛@ 4⅛
Hogs, small, fat	4⅛@ 4¼
Veal, large, ℔ lb	6 @ 7
Veal, small, ℔ lb	7 @ 9
Lamb, spring, ℔ lb	8 @ 8½

Hides, Skins and Tallow.

Hides in prime condition are readily placed at current figures. Business in Pelts and Tallow is of fair volume and prices are without quotable change.

Nothing but select hides, clean and trimmed will bring full figures. Culls of all kinds, either from grubs, cuts, hair slips, side brands or murrain, are not always readily placed at the lower figures.

	Sound.	Culls.
Heavy Steers, over 56 lbs	— @10	— @ 9½
Medium Steers, 48 to 56 lbs	— @ 9½	— @ 9
Light Steers, under 48 lbs	— @ 9	— @ 8½
Heavy Cow Hides, over 50 lbs	— @ 9½	— @ 8½
Light Cow Hides, under 50 lbs	— @ 9	— @ 8½
Stags	— @ 7	— @ 6
Wet Salted Kip	— @10	— @ 9
Wet Salted Veal	— @11	— @10
Wet Salted Calf	— @11½	— @10½
Dry Hides	16½@17	15½@16
Dry Kip and Veal, 11 to 16 lbs	13 @14	12 @13
Dry Calf, under 4 lbs	— @19	— @17
Pelts, long wool, ℔ skin	1 00@1 50	
Pelts, medium, ℔ skin	70@ 90	
Pelts, short wool, ℔ skin	40@ 60	
Pelts, shearling, ℔ skin	15@ 30	
Horse Hides, salted, large prime, each	2 75@——	
Horse Hides, salted, medium	2 50@——	
Horse Hides, salted, small	2 00@——	
Horse Hides, dry, large	1 75@——	
Horse Hides, dry, medium	1 50@——	
Horse Hides, dry, small	1 00@——	
Tallow, good quality	4 @4½	
Tallow, poorer grades	2½@3½	

Bags and Bagging.

As is to be expected at this time of year, business in this department is of light proportions. Stocks of Prison Bags in the hands of tho State have been worked down to small compass, but at low figuros.

Bean Bags	$ 4¾@5
Fruit Sacks, cotton	6½@7½
Fruit Sacks, jute, as to quality	5¾@7
Grain Bags, Calcutta, 22x36, spot	5 @5¼
Grain Bags, San Quentin, ℔ 100	4 50 @——
Wool Sacks, 4-lb	32 @——
Wool Sacks, 7½-lb	80 @——

Poultry.

Nearly all kinds of poultry in prime to choice condition mot with ready sale the past week at full prices. Fine young stock received the most attention, but fat old did not lack for custom. Market for choice spring Turkeys was firm. Young Pigeons in prime condition were in light receipt and good demand.

Turkeys, Young, ℔ lb	$ 18 @ 22
Turkeys, live gobblers, ℔ lb	14 @ 16
Turkeys, live hens ℔ lb	15 @ 17
Hens, California, ℔ dozen	4 50 @ 5 00
Hens, large	5 50 @ 6 00
Roosters, old	4 00 @ 5 00
Roosters, young (full-grown)	5 50 @ 6 00
Fryers	4 50 @ 5 00
Broilers, large	3 50 @ 4 00
Broilers, small to medium	2 50 @ 3 50
Ducks, old, ℔ dozen	4 50 @ 5 00
Ducks, large young, ℔ dozen	4 50 @ 6 00
Geese, ℔ pair	1 50 @ 1 75
Goslings, ℔ pair	2 00 @ 2 25
Pigeons, old, ℔ dozen	1 25 @ ——
Pigeons, young	1 75 @ 2 00

Butter.

Reccipts of fresh are on tho increase, but only a small proportion is strictly choico to fancy. For some favorite marks 32c is exacted. Ordinary fresh is dragging at low figures. Cold storage butter and oleomargarine are being urged to sale in large quantities.

Creamery, extras, ℔ lb	30 @—
Creamery, firsts	26 @28
Creamery, seconds	22 @24
Dairy, select	25 @27
Dairy, firsts	23 @24
Dairy, seconds	18 @20
Mixed Store	14 @—

Cheese.

Not much cheese of any sort offering and market is decidedly firm, especially for choice mild-flavored new. For favorite marks of domestic flats as high as 13½c is being asked. Choicc Eastern cheese can be laid down at this figure, although the Eastern market is by no means woak.

California, fancy flat, new	11 @12
California, good to choice	10 @11
California, fair to good	9½@10
California, "Young Americas"	10 @12½
Eastern	11 @13

Eggs.

For high grado fresh the market is firm, such stock commanding 42c., and in some instances a little more in a small way, the price including cost of city dolivery. Common fresh are not sought after. Pullots' eggs, probably out of cold storage, but accepted by good judges for fresh, are selling at 25c. Eastern eggs are in free reccipt and are offering at comparatively low prices.

California, select, large, white and fresh	40 @—
California, select, irregular color & size	33 @38
California, good to choice store	27½@32½
Eastern firsts	24 @27
Eastern seconds	18 @21

Vegetables.

Fresh vegotables were not in very heavy receipt, and for best qualities the market was moderately firm. Rhubarb was on market from San Lorenzo. Tomatoes were mostly off quality, and in consequence, sold at low prices. Onion market was firm and higher, offerings being lighter and the demand improved.

Beans, Lima, ℔ lb	3½@ 5
Beans, String, ℔ lb	3 @ 4
Beans, Wax, ℔ lb	3½@ 4½
Cabbage, choice garden, ℔ 100 lbs	75 @ 1 00
Corn, Green, ℔ crate	75 @ 1 25
Cucumbers, ℔ box	30 @ 65
Egg Plant, ℔ box	40 @ 65
Garlic, ℔ lb	4 @ 4½
Okra, Green, ℔ box	40 @ 65
Onions, Yellow Danver, ℔ ctl	1 25 @ 1 40
Peas, sweet garden, ℔ lb	3 @ 4
Peppers, Green, ℔ box	35 @ 60
Rhubarb, ℔ box	1 25 @ 1 50
Summer Squash, ℔ box	40 @ 65
Tomatoes, box	15 @ 40

NOTE.—Large boxes are what are known to the trade as "pay boxes," which have to be returned or paid for. They are open top, with hand holes in the ends, and weigh when filled from 50@60 lbs gross. Small boxes are free boxes, about the same as the regular fruit box, weighing when full from 20 to 30 lbs. gross.

Potatoes.

Market for potatoes has been slow most of the week and lacking in firmness, especially for ordinary qualities. Offerings from Sacramento River section were heavy, including some very common stock for which 40@50c. per sack was asked. Demand was mainly local and mostly for choice Burbanks. Sweets were in increased supply and sold at a decline, the inquiry for them not being very active.

Salinas Burbanks, ₱ cental	90	@	1 30
River Burbanks, ₱ cental	50	@	75
Sweet Potatoes, ₱ cental	90	@	1 00

Fresh Fruits.

Aside from Apples, the display of deciduous fruits is now extremely light. Stocks of Apples, especially of desirable qualities, are on the increase. Some are arriving from Oregon and Colorado, showing mainly first-class condition. For choice to select Apples the market is fully as firm as previously noted. Pears now offering are principally Winter Nelis and cooking kinds, market for these ruling quiet at quotably unchanged values. A few small Bartletts arrived from Winters and were quoted at 60@70c per 20-pound box. Peaches were in such light stock as to be hardly quotable, although a few were received from Oregon. Late Plums were in moderate stock, but demand for them were not very brisk, although offered at reasonable figures. Pomegranates sold at a decidedly wide range, owing to great difference in the quality of the fruit, as also in the size of package. Persimmons were in fair supply, but were, as a rule, not sufficiently ripe to be sought after for immediate use. Grapes were offering freely, but mostly rain damaged, and only for choice and thoroughly sound did the market incline in favor of sellers. Melons of all kinds moved slowly and will soon be out of season; many of the present offerings are over-ripe. Strawberries were not in large receipt, and choice brought tolerably good figures, although the demand at top prices could not be termed active. Raspberries were offered sparingly and were mostly under choice.

Apples, fancy, ₱ 50-box	1 35	@	1 50
Apples, good to choice, 50-lb. bx	1 00	@	1 25
Apples, fair to good, ₱ box	65	@	1 00
Cantaloupes, ₱ crate	40	@	75
Grapes, ₱ box or crate	30	@	75
Grapes, large open boxes	60	@	1 25
Huckleberries, ₱ lb	8	@	10
Nutmeg Melons, ₱ box	30	@	60
Pears, Winter Nelis, ₱ box	75	@	1 25
Pears, Cooking, ₱ box	40	@	65
Persimmons, ₱ regular box	75	@	1 00
Plums, Coe's Late Red, ₱ box	40	@	75
Pomegranates, ₱ small box	40	@	65
Pomegranates, ₱ large box	75	@	1 25
Pomegranates, fancy, ₱ large box	1 25	@	1 75
Quinces, ₱ box	40	@	65
Raspberries, ₱ chest	3 00	@	6 00
Strawberries, Longworth, ₱ chest	6 00	@	8 00
Strawberries, large, ₱ chest	2 50	@	6 00
Watermelons, ₱ doz	1 00	@	2 50

Dried Fruits.

Aside from Prunes, there is little dried fruit offering in a wholesale way, and market for Prunes is showing improved condition, there being considerable movement, with market firm at prevailing values. Large quantities of this fruit were ruined by the heavy rains. While the market is not quotable in a wholesale way over 1½c. basis in bags for the four sizes, higher figures are being generally asked, and free purchases would not be possible under 1¾c. basis. Large Prunes are scarce and wanted; 30-40's are nominally 5½@6c. Stocks of Apricots are light and are being firmly held. There are not many Peaches remaining for this early date in the season, and these mostly high grade. A year ago, it is estimated, stocks of Peaches in the State were close to 20,000,000 lbs., while at present date it is doubtful if the total quantity in first and second hands will aggregate 6,000,000 lbs. Nectarines are so nearly out of stock as to be hardly quotable. Supplies of Pitted Plums are of small proportions. Apples are in moderate stock and not much doing in them. White Figs are in rather liberal supply and market easy in tone, but of Black there are not many offering. The steamer City of Puebla, sailing for British Columbia the past week, carried 56,300 lbs. dried fruit, including 30,500 lbs. Prunes. The steamer Umatilla, departing Monday for British Columbia, took 86,165 lbs. dried fruit, including 47,595 lbs. Prunes, 11,125 lbs. Apricots, 10,095 lbs. Figs, 6500 lbs. Peaches, 4450 lbs. Pears.

EVAPORATED OR BLEACHED.

Apples, 50-lb boxes, rings, pressed, good to choice	5½@ 6
Apples, extra choice to fancy, 50-lb boxes	6 @ 6½
Apricots, Moorpark	8 @10½
Apricots, Royal, good to choice, ₱ lb	7½@ 8½
Apricots, Royal, fancy	9 @10
Figs, 10-lb box, 1-lb cartons	55 @60
Nectarines, Red, ₱ lb	5 @ 6
Nectarines, White and Yellow	5½@ 6½
Peaches, unpeeled, good to choice	7 @ 7½
Peaches, unpeeled, fancy to extra fancy	8 @ 8½
Pears, standard, ₱ lb	6½@ 7
Pears, choice to fancy	8 @10½
Plums, Black, pitted	5½@ 6½
Plums, Red, pitted	6½@ 8
Plums, Yellow, pitted	6½@ 7½
Prunes, Silver, good to fancy	4 @ 7½
Prunes, in bags, 4 sizes, 1¼@1½c; 40-50s, 3¾@4c; 50-60s, 2½@2¾c; 60-70s, 2@2¼c; 70-80s, 1½@1¾c; 80-90s, 1@1¼c; 90-100s, ¾@⅞c; small, ½@⅝c.	

COMMON SUN-DRIED.

Apples, sliced	3½@ 4½
Apples, quartered	3½@ 4½
Figs, White, in bulk	2 @ 2½
Figs, Black	2½@ 4

Raisins.

All of last year's Raisins are practically closed out, and demand for new crop is active, with market firm at current values. Higher prices than are now warranted as quotations are being asked, and prospects good for improved figures being realized. Owing to heavy losses by rain and otherwise, it is doubtful if the crop will prove half as large as a year ago. A Fresno dispatch under date of Monday says: "Fire has destroyed the new steel, iron and brick drying and seeding plant of the St. George vineyard, 5 miles from town, with its contents of 200 tons of seeded raisins. Building and contents were uninsured, and the loss, it is estimated, will approximate $30,000 on the raisins alone. The St. George has been unfortunate with this year's raisin crop of 600 tons—300 tons were damaged by recent rains, 200 have been consumed by fire and the remainder will suffer depreciation in value as a result of the destruction of the plant, the seeder being the only independent one in the county. The plant building was considered fireproof, hence no insurance."

CROP OF 1904.

(Fresno delivery except otherwise specified,)

London Layers, 2-crown, 20-lb box	87½@ 90
London Layers, 3-crown, 20-lb box	90 @1 00
Fancy Clusters, 4-crown, 20-lb box	1 35 @1 50
Dehesas, 20-lb box	1 85 @2 00
Imperials, 20-lb box	2 25 @2 50
2-Crown Standard loose Muscatel	3 c
3-Crown Standard	3¾c
4-Crown Standard	4¼@4½c
Seedless Thompsons	4¼@4½c
Seedless Sultanas	3 @3¼c
Fancy, 16-oz. Seeded	5½c
Choice, 16-oz. Seeded	4¾c
Fancy, 12-oz. Seeded	4¾c
Choice, 12-oz. Seeded	3⅞c
Bleached Thompsons, Woodland Dist., 50's	4½@ 8c

Citrus Fruits.

The first new crop Navel Oranges of the season arrived Monday from J. Parker Whitney, Rocklin, Placer county. The consignment consisted of 12 boxes, about 150 size, and were held at $5 per box, but the fruit was not highly colored, as is usual with first receipts. Further shipments of new crop Grape Fruit were received from Oroville, but the fruit was not sufficiently ripe to be sought after; $3.50 per box was asked. Market for Lemons and Limes was quiet at quotably unchanged values.

Oranges, Valencias, ₱ box	2 00	@3 50
Lemons, California, select, ₱ box	2 75	@3 25
Lemons, California, good to choice	2 25	@2 75
Lemons, California, fair to good	1 25	@2 25
Grape Fruit, ₱ box	2 50	@3 50
Limes, Mexican, ₱ box	4 00	@4 50

Nuts.

Almonds of choice quality are in light supply and are being very firmly held; off qualities are not meeting with much inquiry. New crop Walnuts are arriving and are moving freely outward on orders previously booked.

Chestnuts, Cal., ₱ lb	10 @12½
Nonpareil Almonds	13 @16
I X L Almonds	12½@14
Ne Plus Ultra Almonds	12 @13
Languedoc Almonds	9½@10½
Peanuts, fair to prime	5½@ 6½
Cal Walnuts, No. 1 soft shell	11 @—
Cal. Walnuts, No. 2 soft shell	9 @—
Cal. Walnuts, No. 1 hard shell	10½@—
Cal. Walnuts, No. 2 hard shell	8½@—

Wine.

The wholesale wine market is showing much the same general condition as noted in last issue. Dry wines of 1903 are quoted at 15@18c. per gallon, San Francisco delivery. Some very choice white of 1902 has been placed at 35c at winery. Much of this year's wine is likely to prove below average in quality on account of unfavorable weather during the maturing period. Large quantities of grapes were a total loss on account of being water soaked. In some quarters efforts were made to utilize these damaged grapes at about $4 per ton, but there was not much accomplished in this direction, the grapes as a rule being in too bad condition to stand picking. Sweet wines of last year are held at 30c. per gallon, winery deliveries. Receipts of wine at San Francisco last week were 240,200 gallons, and for previous week were 252,050 gallons. The steamer Newport, sailing Oct. 15, carried 74,682 gallons and 25 cases, including 64,041 gallons for New York.



Produce Receipts.

Receipts and exports of leading cereals and other California products for the past week and for the season to date, as compared with the corresponding time the previous year, are as follows:

FOR THE WEEK.		Since July 1, 1904	Same time last year.
Flour, ¼ sks	130,378	1,513,721	1,872,485
Wheat, ctls	143,533	952,438	729,861
Barley, ctls	50,319	1,127,057	2,637,659
Oats, ctls	39,451	391,090	456,453
Corn, ctls	5,876	31,033	46,318
Rye, ctls	345	18,807	22,338
Beans, sks	25,269	108,017	196,024
Potatoes, sks	23,801	368,555	371,147
Onions, sks	4,146	52,493	63,906
Hay, tons	3,679	73,392	79,177
Wool, bales	3,342	26,180	22,414
Hops, bales	6,334	20,110	13,978

EXPORTS BY SEA.

FOR THE WEEK.		Since July 1, 1904.	Same time last year.
Flour, ¼ sk	220,252	1,220,404	1,303,376
Wheat, ctls	75,629	140,551	301,555
Barley, ctls	3,080	506,637	2,040,152
Oats, ctls	122	6,270	8,456
Corn, ctls	2,622	10,246	5,402
Beans, sks	1,005	23,508	11,035
Hay, bales	1,801	49,217	51,415
Wool, lbs	.....	741,504	1,358,159
Hops, lbs	23.539	80,021	222,138
Honey, cases	176	624	1,849
Potatoes, pkgs	3,846	33,212	26,931

PRETTY TALL CORN.—Marysville Appeal: Those critics of the Government who every once in a while take a rap at the seed distribution scheme of the Department of Agriculture should pass their opinion on a stalk of corn which was brought into the office yesterday. It was grown at Brownsville, in this county, by E. H. Brown from seed obtained from the Government, and measures 17 feet in length. It is 10 feet up to the first ear. Mr. Brown has about a quarter of an acre of this corn and says that it was lucky for him a dry spell happened along and stopped its growth, or he would have had to get a logging team to haul the stalks off his land.

140,000 Deaths a Year From This One Cause.

The last census shows that next to consumption there are more deaths from "kidney troubles," so called, than from anything else.

You will begin to understand it all when we tell you that Brights Disease IS kidney trouble. The first few months it is commonly called "kidney trouble." After the kidney trouble fastens it is then called Brights Disease.

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FRESNO AGRICULTURAL WORKS
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Tulare Grange.

To the Editor:—Tulare Grange met at its hall in regular session on Saturday, the 15th. After reading and approval of the minutes, and after a very enjoyable lunch, part of the proceedings of this Grange, four candidates were elected to receive the degrees.

Brother Barber, for the committee on the application of the Audubon Society for the endorsement of its proposed bill for the better protection of non-game birds, reported in favor of the same. The report was adopted, all who spoke of it being in favor of it.

Amendments.—On motion the proposed constitutional amendments, to be voted on at the next election, were taken up and considered.

Senate amendment No. 4, exempting from taxation the property now or hereafter belonging to the "California Academy of Sciences," was approved and its adoption recommended.

Senate amendment No. 2, relating to the judiciary and establishing courts of appeal, and Assembly amendment No. 26, relating to the power of the Legislature to amend existing codes, were passed on favorably, it being the understanding that both have the approval and endorsement of the Bar Association of California.

Assembly amendment No. 14, exempting from taxation the personal property of every householder to the amount of $100, the articles to be selected by each householder," is considered unealled for. No householder but can afford to contribute $2 or less a year to support the government that protects his family and himself. Its advocacy sounds like flam and buncom.

Senate amendment No. 11, relative to exemption of shipping from taxation, has no merit in equity towards other taxable property. If shipping of non-residents unduly competes with shipping of residents of California the proposed amendment is not an equitable remedy and the plea of expediency should find no place in our organic law. Let it be voted down.

Senate amendment No. 20, relating to the length of legislative sessions, the compensation of members of the Legislature and limiting the number of employes of the Senate and Assembly, and to declare elections of Governor. This amendment was condemned as pure unadulterated graft. Doubtless the later date of inaugurating the Governor would give the incoming executive, if his first term of office, more time to familiarize himself with the work, but even this does not by any means justify such petty tinkering with our organic law, which should be carefully guarded against manipulation. Other items of change in the proposed amendment have of themselves no merit. Let Senate amendment No. 20 be voted down.

Water Supply.—The subject of the day, "Is all the water of this county appropriated for irrigation purposes how can it be done?" Brother Emmet put to a beneficial use? If it is not, Barber opened the discussion by reading a well written paper on the subject. Bro. Barber is himself an irrigation engineer of seventeen years experience in this county. From his own knowledge appropriations of water recorded in this county exceed more than double the greatest flow of its streams and more than half of the water diverted from the streams for irrigation purposes, and to save constructing ditches, turned into old quicksand channels, is lost before reaching the land on which it could be used.

The subject is one of vital interest to California. It needs careful study and legislation of a high order. A conservation of all the water of our streams, diverted into larger, well cemented canals, or through pipe lines where necessary, will fully double the water to be now obtained for irrigating purposes. It is a duty incumbent on the State government to have such things done.

Bro. Barber was elected a delegate from Tulare Grange to the National Irrigation Congress to convene in El Paso, Texas, on the 15th of November next.

Questions. — Two questions were drawn from the question box: First—Do the early rains indicate a good winter and crop season the coming one? It was noticed the oldest residents were most diffident about expressing a positive forecast. It was acknowledged the moisture of the soil at present has reached a greater depth than at any time the past two winters. That the rains in 1889 came similarly to the rains this season, but not so much, and it was the best season since 1885, so it is believed generally the present early rains indicate a good crop season.

Second—Is testing the basic weight of prunes by weighing in half-pound lots fair to the growers when selling? Bro. E. W. Davis related his own experience in such tests. He took a lot of ten half-pound weighings at the packing house to another and known to be accurate scale; weighed as a whole they weighed three-eighths of a pound more than they weighed in half-pound weights. It was agreed the fair way to determine the basis weight of prunes would be a small handful from each sack or box weighed as a whole and then averaged.

The Worthy Master gave an interesting account of the State Grange meeting.

The subject for next meeting will be: "What are required as the outside attractions to the ideal home?" Assigned to Sister Swanson, Sisters Morris and Nelson assisting. J. T.

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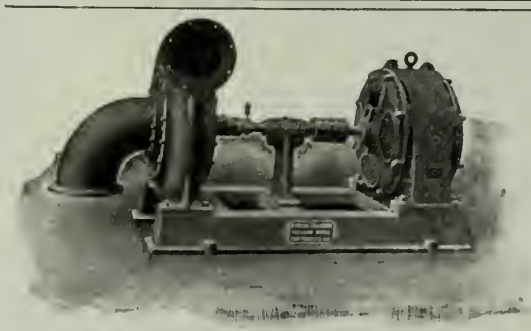
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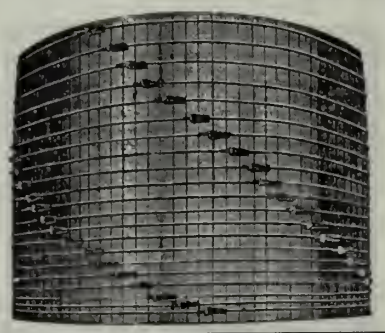

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FRUIT MARKETING.

Parcels Post.

To the Editor:—We ought to advocate parcel post, because then the raisin and prune growers could establish a central delivery branch somewhere on this coast, and customers could get goods at first price, cutting out all middlemen. It hurts to cut out all middlemen, because they are all spongers on the farmer; but it will have to be done and must be done. I say do it at once, and instead of having hundreds of carloads of raisins and prunes on hand, we could clean up every year and not have any surplus. It would also help the orange and lemon grower. Right here in Healdsburg, we can not get a good orange for less than 40 cents per dozen. Does the grower realize anything near this figure? I think not. His price, when I was at Riverside, would run all the way from 50 to 80 cents a box, with all windfalls thrown away. They were beautiful oranges, but were knocked off by the wind. If we could only get them we would gladly pay well for them; but the freight and middlemen put on such a price we can't afford to eat any, so the grower has to cry: "Over-production!" Is it? I say no—just the contrary. I say, "Under-production."

I had a lot of as fine prunes as was grown in the State and was compelled to sell the same on a 1¼ cent basis. Having some friends in the East, I wrote to them inquiring about what they paid for prunes in their market in Dakota. The answer was: Large size, 10 cents per pound; small size, 6 cents per pound. Being somewhat curious as to the size and condition of said prunes, I had my friend send me a few pounds. The larger size, quoted at 10 cents, went 50 to 60; smaller size, 90 to 100. The smaller-size prunes were at least one to two years old, as they were all sugared and worm eaten—nothing but pit and skin. It would make our California hogs squeal to even feed them such prunes. The others were not a good article, either; the meat was very thin on the pits. It would suggest to me that they were raised in an irrigated district, and the process of drying left very little else but pit and skin. I have the prunes here on exhibition; anybody can see them and judge accordingly. He will agree with me that we urgently need the parcel post, so that we can ship an 11-pound package anywhere in the United States for 25 cents.

I understand that such arrangements are made with the express companies here that they handle the parcel post of foreign countries and deliver them to their destination anywhere in the United States. They carry an 11-pound package for 25 cents, shipped from any foreign postoffice having the parcel post system. Just ask your nearest express agent what an 11-pound package will cost you to ship to New York, or vice versa. You will be surprised to know the difference. If they can handle parcels from foreign countries for such a small figure, does it not look reasonable that they should handle ours also on the same ground? I say yes, and the sooner it is done the quicker the over-production question will be settled.

A good many may say: "But, look here, won't that parcel post business hurt our merchant or our business man?" No; because you get more for your produce, and, consequently, have more money to spend and enjoy things that you are now deprived of. A good many may say: "Well, I have a good many customers that I carry over from year to year, and the big mail order houses would get all our business." While there is some logic in that, any man having the welfare of his home, his county, his State, at heart, will always strive to build and uphold that which is so dear to him; he would rather pay a little more and get goods in his little town if he could get a better price for his produce, and he would rather buy butter at 75 cents a roll than pay 25 cents—because he would have the money to do it with. When there is lots of money good times prevail; therefore, I ask you, kind reader, urge your Congressman to give you parcel post; make both parties promise you they will pass such a bill and prosperity will spring up in all communities.

Well Wisher.

Healdsburg.

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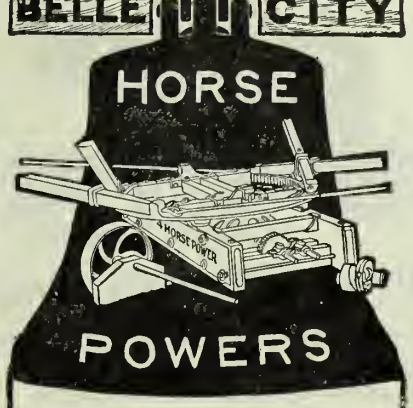
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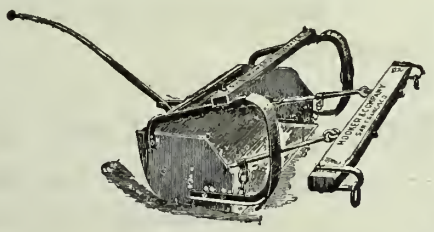
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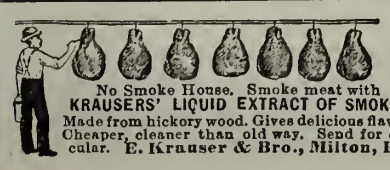
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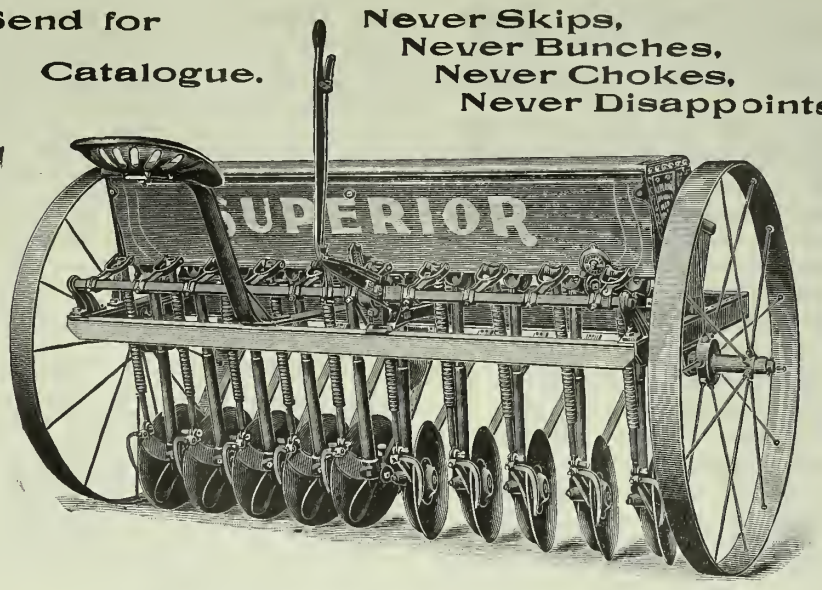
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THE POULTRY YARD.

Western Packers Dropping Poultry.

Our California growers of market fowls have suffered so much during the last few years from systematic shipment of surplus stock from the central West for sale in our markets that they will have keen interest in the statements indicating a possible change in the policies which have prevailed. Orange Judd Farmer of Chicago has been looking into the matter and gives interesting conclusions:

Attention of poultry interests is now turning toward turkeys. Last year's phenomenal prices will doubtless encourage liberal operations this fall. It is somewhat early as yet to give definite advices regarding the turkey supply, and market traders hold views somewhat at variance with each other on this subject. Many profess to believe that supplies will be heavier than last year, although they acknowledge that the wet spring in western producing sections was not at all favorable to young turkeys.

Western commission men express surprise at the manner in which poultry prices have been maintained the past summer. General predictions were for liberal supplies of spring chickens, and the trade was prepared for a break in prices. However, receipts were not so large as looked for. It is claimed by some factors that high prices for eggs kept back many hens from market, farmers preferring to hold over their laying stock for another season in view of 20 to 25-cent eggs.

A significant item to poultry raisers in general, and to small packers and dealers throughout all parts of the West, is the action of the big packing houses in closing down many of the branch poultry concerns throughout Missouri, Iowa, Kansas, Illinois and other Mississippi valley States. Chicago interests say that Armour and Swift have very largely shut down in these States, and this may mean much to the small shipper. It is alleged that the packing houses have found their attempt to control the poultry business of the country anything but a financial success. Instead of economizing on expenses by concentrating the business, they have on the other hand increased them. Small operators with only local branch houses have comparatively light expenses, whereas the packers are compelled to maintain traveling auditors and have a thousand and one other costs in conducting the business.

It is further alleged by Chicago commission men that the dressed poultry put on the market by packers did not give such satisfaction as that packed by small dealers. Generally packers' poultry lack uniformity and quality, and commission men who sold the stock were often compelled to sort everything and repack in order to please their customers.

The withdrawal of the packers from the wholesale poultry business may tend to enlarge receipts of both live and dressed fowls at the big markets. At the same time, it may result in supplies being less uniformly scattered throughout the year, heavier at favorite marketing periods. City dealers in poultry say that the packing houses have in a great measure been responsible for high prices paid for fowls the past few seasons. In order to secure stock from farmers they were often compelled to bid over the heads of small local buyers, and thus boosted the market. This system pursued on a wholesale plan resulted in a uniformly high scale of prices, and their methods of storage and uniform marketing prevented the general glut upon the unloading of their purchases. However, the experience of cattle feeders the past year or so would make it appear that in the long run the packers do not aim to do any philanthropic work in behalf of the farmer.

The favorite way of marketing poultry at Chicago during the summer and fall months is in the form of live birds. What dead stock comes in is generally iced. Chicago dealers say their trade holds scalded fowls in highest favor, while the Boston demand wishes poultry dry picked. Generally there is not a wide difference between prices for live poultry and iced stock. At some periods, however, the difference will average ½ to 1 cent a pound in favor of iced fowls. Dealers claim the cost of icing is largely offset by lighter shrinkage. It is said live poultry on average Western runs will lose 7% to 10% in weight during the hot weather; again the feathers are saved when shipping the birds iced.

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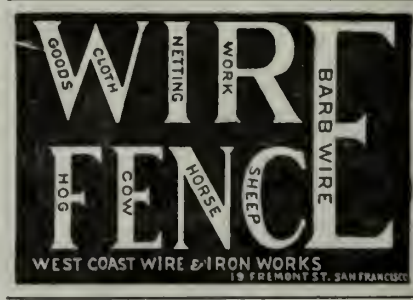
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AGRICULTURAL SCIENCE

A Great Farmers' Institute at Berkeley.

The State Farmers' Institute, to be held at the University of California on October 25, 26 and 27, is to be one of the largest institutes of its kind to be held in the State of California or even west of the Rocky mountains. Already a great number have written from the remote parts of the State saying that they would be present.

The opening exercises will be held in the Greek Theater on Tuesday, October 25 at 3 P. M. The program for the eight sessions is as follows:

Address of welcome, Benjamin Ide Wheeler, president of the University; response, Mr. H. C. Raap, Master of California State Grange; address, Hon. George C. Pardee, Governor of California; Greek Sacrificial Procession, arranged by the Department of Greek of the University of California.

Tuesday evening, 8 o'clock (exercises in a lecture room)—General subject, "University Extension." Professor H. Morse Stephens, "History, Purposes and Methods of University Extension;" Professor E. J. Wickson, "University Extension in Agriculture;" Mr. W. T. Clarke, "Reading and Correspondence Courses."

Wednesday morning, October 26, 9 o'clock — General subject, "Agricultural Education." President Benj. Ide Wheeler, "Recent Developments in Agricultural Education;" Professor E. W. Hilgard, "Evolution of Modern Agriculture;" Hon. P. J. Shields, Superior Judge, Sacramento, "Material, Social and Educational Value of Instruction in Agriculture;" Dr. Leroy Anderson, Director of California Polytechnic School, San Luis Obispo, "Agriculture in Secondary Schools;" 11 o'clock military exercises by the University battalion.

Wednesday afternoon, 2 o'clock—General subject, "Agricultural Organization." Mr. A. R. Sprague, president California Fruit Exchange, Sacramento, "Essentials of Agricultural Organization;" Mr. J. H. Reed, Riverside, "Need of Organization for Closer Study of California Fruits;" Professor A. J. Cook, conductor of Farmers' Institutes in Southern California, "Farmers' Clubs and Farmers' Institutes;" Mr. D. T. Fowler, conductor of Farmers' Institutes in central and northern California, "The Rochdale System in California."

Wednesday evening, 8 o'clock—General subject, "Agricultural Research." Professor C. W. Woodworth, "Progress in Agricultural Investigation;" Professor M. E. Jaffa, Professor E. W. Major, Professor A. V. Stubenrauch, Professor R. E. Smith, and Professor G. W. Shaw will make short addresses upon special lines of investigation.

Thursday morning, October 27, 9 o'clock—General subject, "Agricultural Development." Mr. W. V. Stafford, State Commissioner of Labor Statistics, San Francisco, "Farm Labor in California;" Professor Elwood Mead, Chief of the Irrigation and Drainage Investigation, United States Department of Agriculture, Washington, D. C., "The Need of Training in Agricultural Engineering;" Mr. C. H. Markham, vice-president and general manager of the Southern Pacific Co., San Francisco, "The Farmer and the Railroad; Their Relations."

Thursday afternoon, 2 o'clock—General subjects, "Agricultural Economics." Mr. E. F. Adams, Agricultural Editor of the Chronicle, San Francisco, "The Farmer as a Business Man;" Mr. Charles H. Bentley, manager of the sales department of the California Fruit Canners' Association, "The Merchant as a Factor in Marketing;" Professor Carl T. Plehn, "Taxation;" Mr. John Tuohy, Tulare, "Taxation for State and County Revenue."

Thursday evening, 8 o'clock—Professor Elwood Mead, "Irrigation Abroad," an account of recent observation in foreign irrigated countries, illustrated by lantern slides, of notable irrigation structures, etc.

New Patents.

DEWEY, STRONG & CO.'S SCIENTIFIC PRESS PATENT AGENCY, 330 Market St., S. F., has official reports of the following U. S. patents issued to Pacific coast inventors:

FOR WEEK ENDING OCTOBER 4, 1904.

771,760.—TREATING SEAWEED—D. M. Balch, Coronado, Cal.
771,599.—POWER WHEEL — A. C. Bates, Oakland, Cal.
771,452.—BURIAL APPARATUS—J. H. Beattie, Tacoma, Wash.
771,526.—MOTOR—W. Blackburn, S. F.
771,412.—CREMATING FURNACE—Brett & Benton, Los Angeles, Cal.
771,711.—LUBRICATOR—E. Clark, Winslow, Ariz.
771,793.—SEWING MACHINE—C. A. Connan, Los Angeles, Cal.
771,623.—KILN—D. H. Gibson, Seattle, Wash.
771,797.—STEAM BOILER—Heberer & Hyne, Alameda, Cal.
771,730.—CUFF—W. F. Howell, S. F.
771,475.—ELEVATOR—J. J. Jordan, Tonopah, Nev.
771,435.—HAND STAMP—S. W. Metcalf, Sisson, Cal.
771,742.—CALENDAR—T. O'Sbaughnessy, San Jose, Cal.
771,495.—BARREL BUSHING—F. M. Pfluger, Portland, Or.
771,268.—ARTIFICIAL LIMB JOINT—G. Reinhardt, Elmhurst, Cal.
771,585.—CAR BRAKE—E. Stevens, Monroe, Wash.
771,286.—BURGLAR ALARM—G. A. F. Streuber, Seattle, Wash.
771,792.—HYDRAULIC FLUME—G. W. Wilderman, Portland, Or.

RACE-HORSE prices are certainly still respectable. At the sale last week at Madison Square Garden, New York, the entire racing stud of the late William C. Whitney was put up at auction. When bids were called for Hamburg, H. P. Whitney offered $50,000, which was raised by James R. Keene to $60,000. Mr. Whitney then bid $70,000, and the great sire went to him at that figure. W. C. Whitney paid $60,000 for Hamburg. Forty-one horses in all were sold during the evening, and the aggregate amount received was $232,600, of which Harry Payne Whitney paid $145,900 for twelve of the thoroughbreds.

OF VALUE TO HORSEMEN. — Horses which have been used steadily at work, either on the farm or road, may have some strains whereby lameness or enlargements have been caused. Or perhaps new life is needed to be infused into their legs. Gombault's Caustic Balsam, applied as per directions, will be of great benefit. One great advantage in using this remedy is that after it is applied it needs no care or attention, but does its work well and at all times. *

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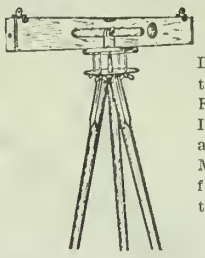
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IV.	The Wild Fruits of California.	XXIV.	Vine Propagating and Planting
V.	California Mission Fruits.	XXV.	Pruning and Care of the Vine.
VI.	Introduction of Improved Fruit Varieties.	XXVI.	Grape Varieties in California.
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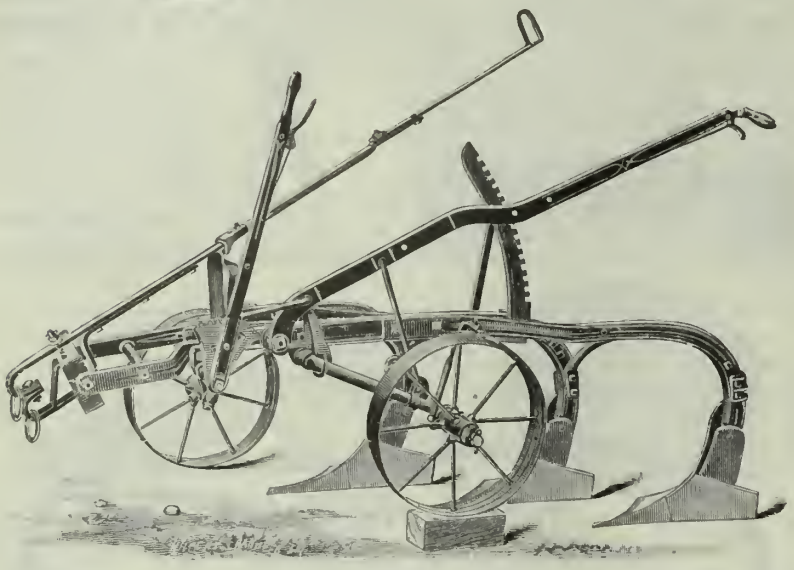
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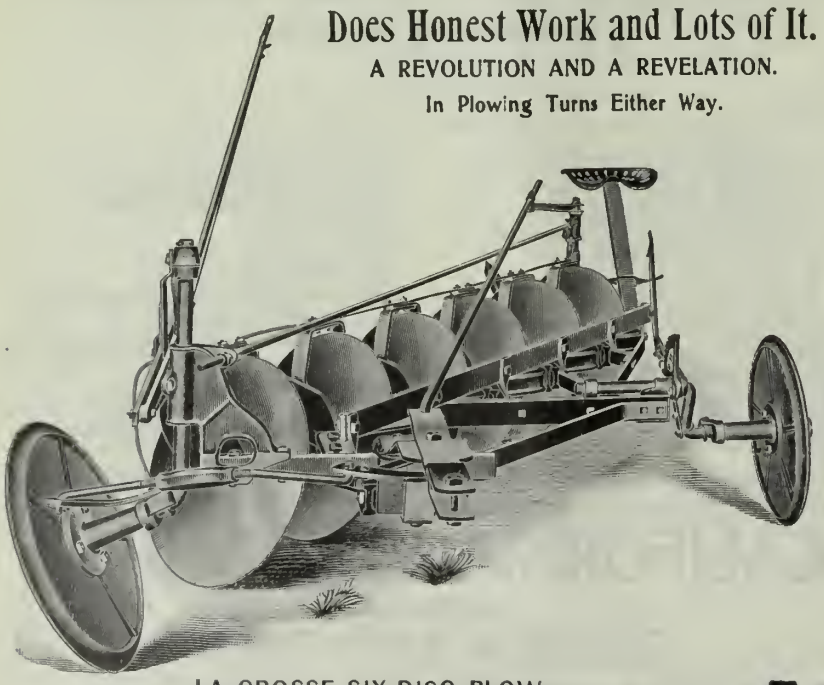
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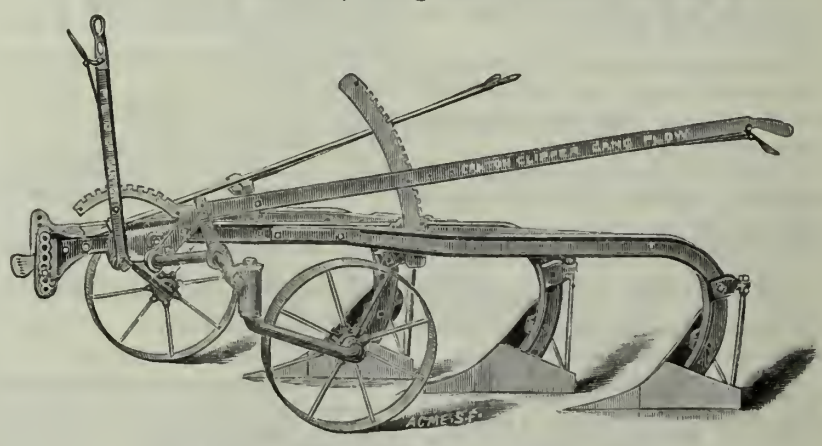
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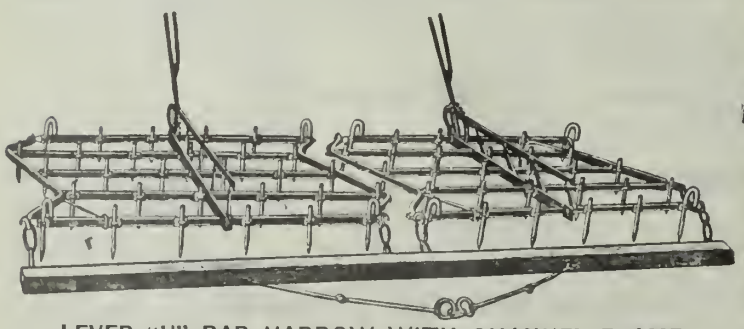
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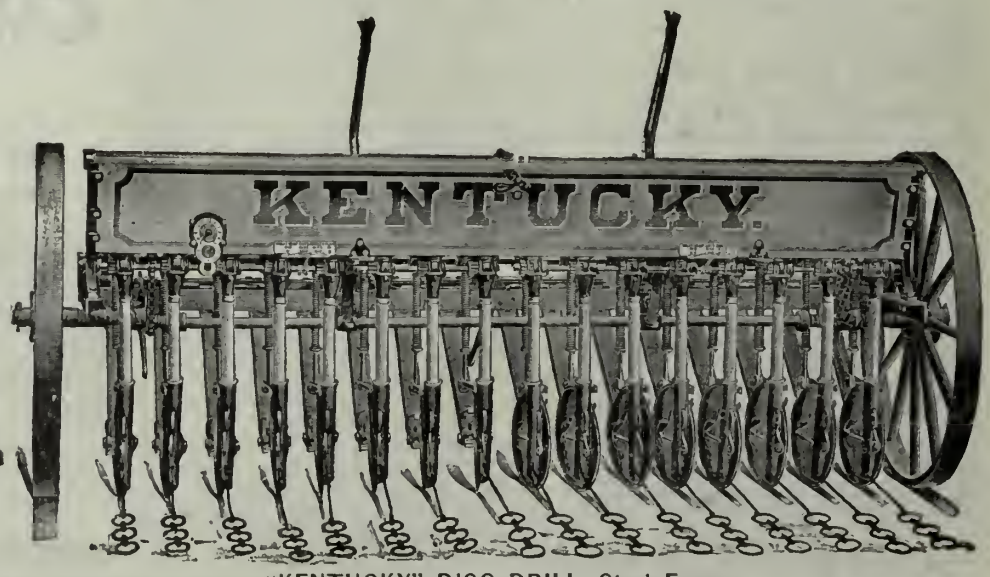


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The Runners Are Not Illustrated, But Are Furnished.



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PACIFIC RURAL PRESS
AND CALIFORNIA FRUIT BULLETIN.

Vol. LXVIII. No. 18. SAN FRANCISCO, SATURDAY, OCTOBER 29, 1904. THIRTY-FOURTH YEAR. Office, 330 Market St.

A Few Streams of Humboldt County.

A few weeks ago we gave pictures and descriptions of Eel river, the greatest water course of Humboldt county, and giving name to a valley of great capacity and fertility. The county is one of the best endowed in the State in the matter of running streams, and we have this week a group of picturesque waterways which is delightful to look upon.

South of Eel river is Bear river, with a northwesterly course, and emptying itself into the ocean four miles north of Cape Mendocino, while a few miles south of the Cape is the mouth of Mattole river.

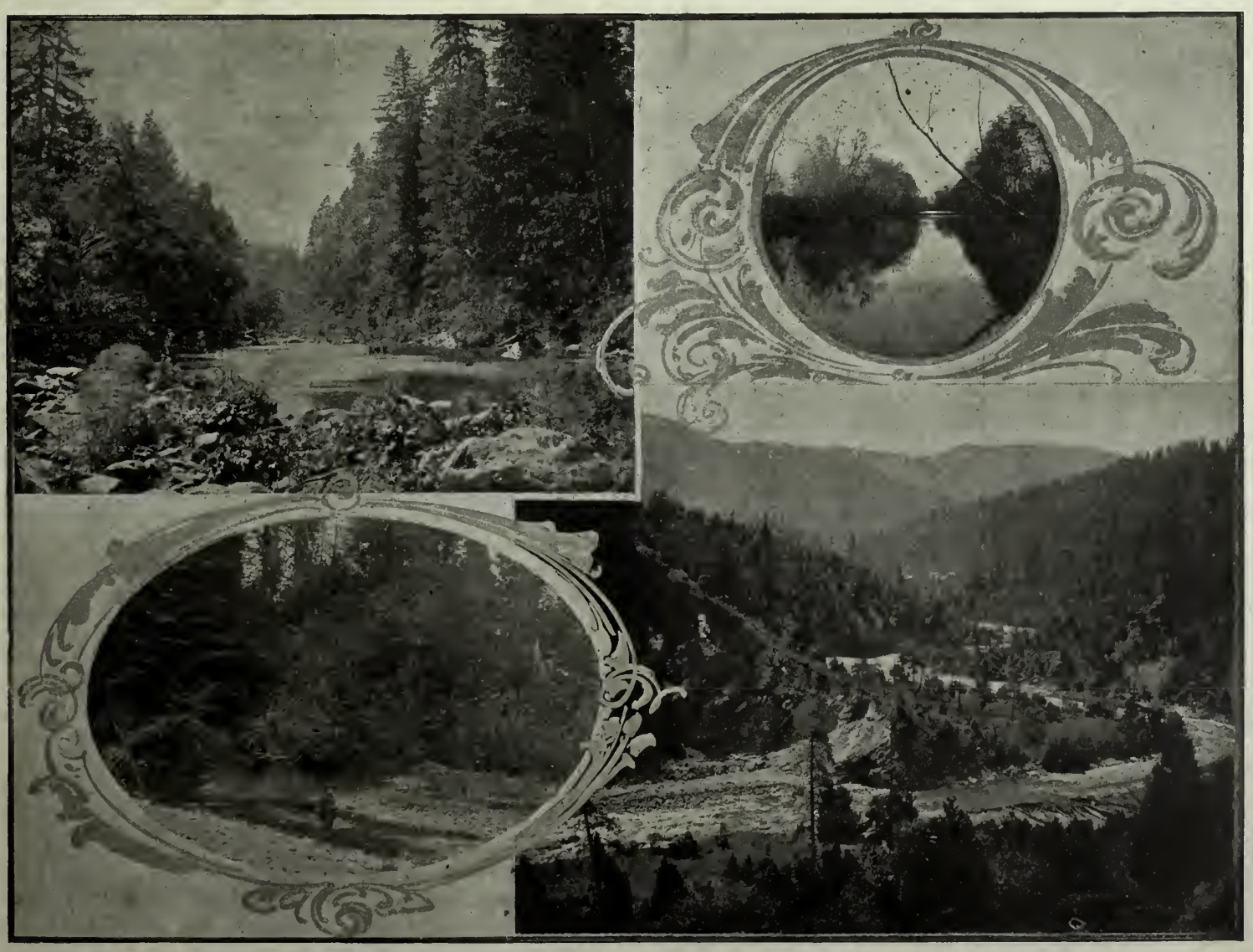
One scene is on Salt river, which is a tidal affluent of Eel river, nine miles in length, but the other pictures represent quite other streams.

Mad river is, next to Eel river, the most considerable stream of the county, which it enters from Trinity county, a little north of the Van Duzen—the principal tributary of Eel river—and flowing northeasterly, reaches the ocean ten miles north of the entrance to Humboldt bay. The river penetrates a valuable timber belt, and its delta is one of the richest agricultural sections of the coast. North of Mad river is Redwood creek, a considerable stream flowing through a dense body of timber.

Price creek and Bluff creek are smaller streams, very inviting and picturesque, but only two of the host of similar swift runners which Humboldt county possesses. In the extreme north the great Klamath takes a sharp bend south into Humboldt county, and, receiving the waters of its affluent—the Trinity—from the south, takes its course into Del Norte county, by a bend to the north, as well defined as that which distinguishes its entrance into Humboldt. The Klamath is navigable for small ocean craft for but a short distance from its mouth.



Salt Evaporation and Harvesting the Salt Crop at Alvarado, Alameda County.



Mad River.
Price Creek.

Some Humboldt County Streams.

Salt River.
Bluff Creek.

So much interest has been manifested in the salt resources of California, which we described and illustrated in our issue of October 15th, that we give herewith two views along the same line. They are perhaps even more suggestive of the salt work in Alameda than the picture previously published. Both the extent of the acreage exposed and the amount of salt gathered are sharply indicated. The brilliant whiteness of some of the accumulations may also be taken to indicate purity, for analysis shows that the bay shore salt is remarkably pure, being in some cases 99.4% pure chloride of sodium. The production in the county where our pictures were taken amounted in a recent year to 114,450 tons, that was valued at the sum of $324,136.

PACIFIC RURAL PRESS.

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E. J. WICKSON.....Horticultural Editor

SAN FRANCISCO, OCTOBER 29, 1904.

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The Week.

The chief agricultural event of the week is in progress as we go to press and is attracting wide attention. About 500 men and women interested in agriculture have come from all parts of the State to pass half the week in studies and deliberations at the University of California, according to the programme which was published last week in the Pacific Rural Press. In addition to matters of serious concern outlined by that publication there have been added many recreative and entertaining features secured through the welcome extended by the students to the visiting farmers to join them in their sports and pastimes—that is, to join them to the extent of viewing the students' activities and enjoying the fun of them all. The students of the University entered heartily into the idea of welcoming a large representation of the agriculturists of California, and their enthusiastic greetings were warmly reciprocated by the visitors. We mention these rather lighter things of the meetings at Berkeley because the more ponderous will take care of themselves. The idea of uniting the farming patrons and supporters of the University in mass and giving them opportunity for observation of its facilities and operations was a good one from the start, and it is working out well as we go to press.

The effort this week at the University is a part of the Farmers' Institute work. It is an institute of the whole State at the place whence the institute initiative proceeds. It is timely, then, to introduce a few facts about that undertaking: Professor Wickson, in his annual report on the Farmers' Institutes held by the department of university extension in agriculture during the year ending July 1, makes the statement that the generous legislative provision of $6000 for this work has brought about a much better system, a greater increase of meetings and a wider territory covered. A total of 113 institutes were held in forty-one out of the fifty-seven counties of the State. The increase in these meetings has been almost 50% over previous years. The attendance at the meetings was 43,680. As the State has no closed season corresponding to the winter months in the East, it was possible to hold institutes every month in the last year, and localities were visited when farm work was less pressing. The total cost of these meetings for the year ending June 30, 1904, amounted to $7234, of which sum the State contributed $6000, leaving the balance as the University's actual cash outlay; but the time of the Agricultural College staff members who were engaged, based on the regular salaries, is estimated at $2000, making the University contribution fully $3234 for the year. The undertaking is conceded to be of great importance in the promotion of California agriculture.

The wheat markets of the world have been drooping the past week, but Chicago is only fractionally lower on futures than at date of last review. In this center there is not much wheat offering at any figure. Wheat charters are nominally 22s 6d to Europe, usual option. Barley is ruling steady for desirable qualities. One cargo of 3900 tons barley went afloat for Europe. Bean market is firm for choice and weak for damaged; Limas are higher. Mill feed remains practically as last noted. Hay is going at generally unchanged values, market for other than choice favoring buyers. In live stock and meats there have been no changes. Choice beef is scarce; poor cows are plentiful. Hogs desirable for packers are in good request. Fresh butter is lower, retailers neglecting it to work off cold storage holdings. Fine new cheese is ruling steady at recent advance. Fresh eggs of select quality are not obtainable in large quantity, but there are plenty Eastern and cold storage. Poultry market was easier for common, owing to heavy offerings of Eastern, but choice young domestic did not lack for custom at comparatively good prices. Potatoes were without improvement. Onions are higher. Apples are in free receipt from the North and East, but prices suffered no special decline. Grapes are in reduced supply and mostly under choice. Citrus fruits are without special change; last crop Valencia oranges are reported all in; new crop Navels are unripe. Prunes are moving outward freely, one steamer taking over 1,000,000 pounds, mainly for Germany. A large shipment of raisins was made to Australasia; packers are reported trying to cinch the growers on new crop. Walnuts are firmer. Hops steady. Good to choice wool is in active demand.

The oleomargarine question is still pressing, and the contest for pure butter in easily recognizable color is likely to arise sharply at the next session of Congress. We have received a communication from the State Board of Agriculture of Pennsylvania which California dairy producers should give heed to, because the bogus product is always waiting to move westward from the great packing points and to invade Pacific coast territory. The announcement is made that the oleomargarine interests of the United States have formulated plans to combine and make a determined effort to secure the repeal of the bill passed by Congress in 1902, known as the "Grout bill," which places a tax of ten cents a pound on colored oleomargarine. Manufacturers of and dealers in oleomargarine are endeavoring to form a solid organization, including in the membership every manufacturer and dealer in oleomargarine in the United States. In a circular letter, those who are in charge of the opposition to the law referred to present their side of the subject in the following language:

To secure the repeal of this law a large fund will be necessary. The first duty of the Association is to raise the fund and then work with it for the repeal of the tax on oleomargarine. It is absolutely necessary that oleomargarine dealers throughout the United States contribute, in order that this law may be repealed Their existence depends upon the repeal of the law.

Yes; and the existence of the legitimate butter industry depends upon the maintenance of the law. Which has the better right to exist, the honest product or the imitation? All farmers' organizations and dairymen and farmers generally should write to their respective members of Congress urging them to work and vote against the repeal of the "Grout bill," and to assist in thwarting the efforts to overthrow a law, the policy of which has been determined and which has proven by experience to be beneficial. If the statute should be repealed, it would not only seriously affect the welfare of every producer of butter but it will also open the way for the general sale of substitutes for dairy products, to the injury of the consumer.

It is the privilege of any and every advertiser in the Pacific Rural Press to change the matter appearing in their advertising space whenever they wish—every week if desired. Indeed, frequent changes in the matter so appearing are encouraged, as it adds freshness and consequent value to the announcement.

QUERIES AND REPLIES.

Irrigation of Young Orchard.

To the Editor:—Kindly give me information in regard to irrigation of a young orchard, now two years, set in apples, pears and prunes, on sandy loam, deep soil and clean cultivation. For the next two to three years how long a period would you consider sufficient to apply water at each irrigation, using a furrow some three feet on each side of tree row? The rows are 600 feet long, easy grade, and I am using 1-inch boxes, regulating the flow. Is thirty-six hours too short during hot months, irrigating one side, then switching over to the other side at half time? Are four or five irrigations enough during the season—June to October—for trees four and five years set out? The trees are in very good shape, but I find some of my neighbors use more water and give much longer hours and obtain somewhat larger growths; but I fancy my trees get deeper rooted. Which is best? Does excessive irrigation tend to alter or pack the subsoil?

Should the Damson be left on the tree till after the first frost? I understand this is a plan followed in parts of England. Would the same apply in this country? Does it improve the flavor or quality of the fruit for preserving?—L. H., Payette, Idaho.

We send some publications which we have prepared for the U. S. Department of Agriculture on the use of irrigation in fruit growing, citing the experiences of a great many growers on the use of water, cultivation, etc., and from studying over the various experiences described you might find some points applicable to your own problems. The amount and frequency of irrigation must depend upon the character of the soil, the exposure, etc., because there are such great differences in the amount of water lost in drainage, evaporation, etc. The depth and retentiveness of the soil are the chief factors in determining the frequency of irrigation. We should say in a general way that the length of run of water, the frequency and the total number of irrigations which you describe would be enough for young trees, but that you can only determine by observation of the growth. As you say, it is not desirable to get excessive growth in a young tree and yet there must be sufficient extension of new wood and it should be strong and vigorous. It is probably true that many growers, in your part of the country where water is abundant, use more than necessary. That must be determined by local observation. The free use of irrigation water does have the effect of hardening the subsoil and the formation of hardpan layers by the concentration of silt, etc , below the surface, and it is often necessary once in a while to plow more deeply than usual in order to break up these layers.

Judging by California experience, it is not necessary to leave plums on the tree until the first frost occurs. We secure perfect fruit without the intervention of frost—in fact, it is sometimes a matter of weeks or months after the fruit is gathered before frost appears. Our observation is that the tendency to credit frost with very desirable effects in the ripening of fruits, which is common in countries where early frosts are frequent, is largely an exaggeration.

Ills of the Cherry Tree.

To the Editor:—I have 600 Royal Ann cherry trees about twelve years old in one block that do not mature their fruit. They bloom profusely and the trees seem strong and vigorous. Yet the large limbs die, and at the present time some of the limbs are swollen and puffy with sap under the bark. I also observe that they bloom later than other Royal Anns within 1 or 2 miles. We are situated near the Willows, where cherries seem to bear abundantly. The soil is well cared for and we irrigate in March. Some people tell me that they need association with other varieties, as they need cross-pollination. If so, what variety should I graft to the trees?—Grower, Santa Clara county.

The situation which you describe with reference to your Royal Ann cherry trees involves two distinct conditions: First, lack of cross-pollination with other varieties does sometimes make the Royal Ann variety sterile, and it bears much more abundantly when associated with other varieties like Tartarian, the Black Bigarreau, the Bing and other popular market varieties. You could graft over a few of your trees with these varieties this winter and thus have an opportunity to judge of their influence upon the Royal Ann. But another, and apparently more serious, condition is manifested by what you say about the trees dying back, gumming, etc. This is not due to the lack of pollination, but to unfavorable

moisture condition. It may be due to too much accumulation of water in the soil during the winter, or it may be due to too complete drying out of the soil during the latter part of the summer. Both too much and too little water bring the tree into distress. You must make local examination to determine which condition is injuring your trees. If you find that water stands in the soil for some weeks together in the winter, the die-back is probably due to that. If, on the other hand, this does not occur, but the trees yellow and drop their leaves in the latter part of the summer, and on digging down you find the soil quite dry at a depth of 3 or 4 feet, then the probability is that your trees are suffering from lack of sufficient moisture to carry their growth late enough in the summer.

Mealy Bugs in Forcing Beds.

To the Editor:—We raise tomatoes under glass, and now for the first time (having been in the business for years) we are troubled with mealy bugs. They appear on the small plants in seed boxes, in some cases, in others we can see nothing with naked eye, but they come on the plants after transplanting to the hot houses. They are underground on stem and roots. The plants are set in the ground. not on benches. The ground has been used for tomatoes four years, fertilized with commercial fertilizers. What will kill the mealy bugs and prevent their appearance? Where do they come from? We want to plant more seeds. How can we make the soil in the boxes perfectly free from insect pests? Could it be fumigated with bisulphide of carbon without injury to seeds? Some of the plants have small tubercles on the ends of the roots; what are they and are they injurious?—Tomato Forcer.

The mealy bug nuisance is most generally held in check by using fresh soil for the growing of plants and using boxes which have been disinfected by bisulphide of carbon, or by boiling water or hot air. The soil under glass is also frequently renewed, hauling out old soil and replacing it with new. When this is done the mealy bug can usually be held in check by spraying with kerosene emulsion or tobacco extract, using also the smoke of burning tobacco stems in the closed house. Bisulphide of carbon can be used for the same purpose and no injury will result providing the soil after the injection of the bisulphide is forked up loosely and exposed to the air. This will allow the bisulphide vapor to wholly escape. Your last remark justifies the prescription of using fresh soil both for growing seedlings and for growing the main crop. The swellings on the roots of your plants are probably caused by nematode worms which multiply in the soil and render a frequent change of soil desirable. These worms are exceedingly small, in fact of microscopic size, and are exceedingly difficult to destroy by insecticidal applications. New, clean soil is usually the most satisfactory recourse.

A New Imperialist.

To the Editor:—May I ask you to identify for me the enclosed sample of grass. It is a sample of a variety of grass which grows wild along the ditches at Imperial, Coachella and other desert points, grows equally well on good and alkali land, and is greatly relished by stock, one man telling me his cattle would leave alfalfa for it. This man says he has a patch which he finds he can cut at periods of twenty to twenty-five days. This may be something very common, but so far I have been unable to find any one who could give it a name. It would seem to be a splendid pasture feed, or hay crop, if it is true that it can be cut as often as reported by this man.—Observer, Redlands.

The grass has been studied by Mr. H. M. Hall, assistant botanist at the University, and is recognized as Leptochloa imbricata. It is a very promising grass for the hot, but irrigated regions of the southwest. It has no common English name and has not been considered of any importance, although it has been known in southern California, Arizona and Mexico for a long time. But since water has been turned into the Colorado desert it has become very abundant in places. It grows rapidly on low, moist land of the hot districts, and withstands more alkali than most forage plants. According to other correspondents, as well as yourself, stock are very fond of it. The only other grass of this genus of economic importance is a species which is used for a limited extent in Texas, both for hay and for forage. It ripens there during the autumn. So far Leptochloa has not been analyzed with the view of determining its nutritive value. While it may become troublesome as a weed in orchards it will never be a serious pest, since it is an annual, and can be easily kept down by proper cultivation.

Walnut Growing.

To the Editor:—I have a tract of land 6 miles back from the coast that I am inclined to think would grow English walnuts successfully. What information concerning this land would it be necessary for you to have in order that you could give me an intelligent opinion thereon? Is the sand vetch a success?—Farmer, Santa Cruz.

The requirements of the English walnut are a soil of considerable depth and richness, so that moisture enough may be retained to keep the tree growing during the long, dry summer. At the same time the soil should be open enough so that the water should not stand for a long period in the winter If you have such a soil the probability is that you can grow walnuts successfully, but it is not desirable to plant them on uplands where the soil may get dry in the middle of the summer, although your rainfall in the winter may be heavy. The sand vetch has proved itself to be a good winter growing plant where frosts are not too sharp, and the only way to demonstrate its success in your particular region would be to try a little sowing of it this winter.

Gum Disease.

To the Editor:—I enclose you some of the bark from an orange tree over twenty years old. It turns black, the bark breaks and a gum exudes. Can you diagnose the case?—Reader, Colusa.

So far as we can judge from this specimen and from your remarks, it is an occurrence of one form of what is generally known in the older orange districts as "gum disease." It may come from root trouble, resulting from water standing at the root, or it sometimes occurs at the base of the stem, from allowing irrigation water to stand around the trunk of the tree. The treatment is to remove the diseased bark and paint the spot with crude carbolic acid, such as is cheaply secured from the general stores. In using this acid care should be taken not to allow it to extend beyond the wound which is made in cleaning the bark. If the trouble is at the base of the tree care should be taken in subsequent irrigations to allow some earth to stand between the water and the bark. If it results from standing water in the soil, the remedy is drainage, or to use the water in less amounts, so as not to accomplish soil saturation. Several forms of gum disease are more or less frequent in all the citrus fruit districts, and they are all capable of correction in the way indicated.

Speltz.

To the Editor:—I wish to learn something of a kind of grain called speltz. I have made inquiry of several persons but nobody seems to know much about it, but said if I would write to you I would get information. My attention has been called to it by reading the reports of harvest crops in the North Middle States.—Reader, San Luis Obispo county.

The hardy grain known as speltz was introduced a number of years ago by the Agricultural Department of the University and offered for experimental culture, but no one spoke particularly well of it. It belongs to the wheat family, but holds its husk on the grain like a barley. It is grown in the extreme north of Europe, and is supposed to be particularly valuable in frosty places. It might be of some value in some parts of your interior, upland districts where the temperature falls low. It was introduced a few years ago into the Northwest and, as your reading shows, has been grown to a certain extent in that district. In this State it is hardly likely to be of account where ordinary wheat or barley can be successfully grown. You can get seed from most seedsmen.

Handling Johnson Grass.

To the Editor:—Will you be kind enough to tell me the most effective way of destroying the so-called "Johnson grass." It is spreading very fast in this community; and it is of vital interest to the people how to check its growth and destroy what is growing.—Farmer, Merced county.

The most successful way of handling Johnson grass is to plow up the ground roughly during the dry season, so as to expose the roots as much as possible to the heat of the sun, and drag out with harrow and rake as many roots as possible into windrows and burn them as soon as they become dry enough to burn readily. Then put the ground into some cultivated crop in which a weed cutter can be used at frequent intervals during the summer, cutting the shoots of the grass below the ground so that as far as possible it is never allowed to show the green color. A better way still is not to allow a crop, but to allow the land to lie fallow, running a weed cutter at short intervals so that all shoots of the grass may be cut off below the surface. After this, constant watchfulness, removing all shoots as soon as they appear and especially destroying the grass upon the ditch banks, so that no seed shall fall into the water, constitute perhaps the most effective things that can be done. If you have neighbors along the ditch above you who persist in growing Johnson grass for the reseeding of your land you will have to proceed against them under the law which was passed at the last Legislature, making the growing of Johnson grass in such situations a criminal offense.

WEATHER AND CROPS.

Report of the U. S. Weather Service for Week Ending October 24, 1904.

Alexander McAdie, Forecast Official and Section Director.

Sacramento Valley.

Clear, warm weather prevailed during the week, with dry northerly winds. Prune drying progressed rapidly and is nearly completed. Olives and walnuts are ripe and picking has commenced. Oranges are coloring and making satisfactory progress; prospects are good for an excellent crop. Some varieties of grapes are being shipped from Sacramento, but the Tokays were ruined by heavy rains. Plowing and seeding are progressing in all sections, and it is probable a large acreage of grain will be planted. Early sown grain is making good growth, and looks healthy. There is an abundance of green feed, and stock are in good condition.

Coast and Bay Sections.

The weather was warm and clear during the week, with northerly winds in some sections. Heavy frost at Upper Lake on the 17th damaged late summer crops. The north wind dried the soil, but caused no damage, and the warm weather was very favorable for late grapes, oranges, fruit drying and pasturage. Grapes in the southern districts were not so seriously damaged by rain as previously estimated, but the loss in portions of the northern section will be quite heavy. There will probably be a large second crop of tomatoes in Sonoma county. Apple picking is in progress. Plowing and seeding continue. There will be a large acreage in San Benito and Sonoma counties. Green feed is plentiful and of good quality.

San Joaquin Valley.

Clear and warm weather prevailed during the week, but the nights were cool and light frosts occurred in the northern section. Conditions were quite favorable for drying the last of the prune and raisin crops and shipping them to packing houses. Grape harvest is not yet completed and considerable quantities are going to markets and wineries. It is reported that there will be no second crop of raisins, owing to the unusual rains. Olives at Lodi are coloring rapidly. Oranges are in excellent condition and a large yield is expected. The soil is good condition and farm work is progressing. Green feed is abundant and alfalfa is making good growth.

Southern California.

Abnormally hot, dry weather prevailed most of the week, with northerly winds. The highest temperature for three years—94°—was recorded at San Diego on the 21st. The weather was very beneficial to raisins, but unfavorable for all growing crops and pasturage. Fires in the vicinity of Santa Monica caused great damage to hay aud farm property, and destroyed the Experiment Station buildings. Walnuts were not injured by heat and picking is progressing rapidly. Oranges are making satisfactory progress. Bean thrashing is nearly completed. Green feed is plentiful.

Eureka Summary.—Hrvesting and thrashing are practically completed. Recent rain destroyed many fields of uncut peas, but gave grass a good start. Plenty of feed assured for the winter. Plowing resumed.

Los Angeles Summary.—Hot and intensely dry weather during the past week caused greater demand for irrigation water than at any time during the summer; desert winds parched vegetation. Much cooler at close of the week, with coast fog.

Rainfall and Temperature.

The following data for the week ending 5 A. M. Wednesday, October 26, 1904, are from official sources and are furnished by the United States Weather Bureau for the Pacific Rural Press:

California Stations.	Total Rainfall for the Week	Total Seasonal Rainfall to Date	Total Seasonal Rainfall Last Year to Same Date	Average Seasonal Rainfall to Date	Maximum Temperature for the week	Minimum Temperature for the week
Eureka	T	4 34	3 27	4 12	74	48
Red Bluff	.00	8 49	.46	1 87	84	52
Sacramento	.00	5.47	.12	1 35	78	48
San Francisco	.00	7 45	.17	1.53	78	54
Fresno	.00	4 98	.00	.74	78	44
Independence	.00	.47	.42	.54	78	44
San Luis Obispo	.00	4.58	.02	1.95	90	50
Los Angeles	.00	1 13	43	.80	94	50
San Diego	.00	.16	.07	.53	94	56
Yuma	.00	.81	.62	.91	92	56

AGRICULTURAL SCIENCE.

The Works and Ways of Soil Bacteria.

The October number of the Century Magazine has a very attractive article on recent discoveries concerning soil bacteria and ways in which they operate to enrich soil and advance the growth of useful plants. If there is error in the article it consists in producing the impression that the era of fertilizing soils is closing and that as a substitute for fertilizing there is coming in an era of bacterializing. This is too sweeping a concession to make to recent discoveries. While it is undoubtedly true that the introduction of proper germs is to be a very important affair in our newer agriculture, too much should not be expected of them and the public should not be led toward such expectation. The work of these germs is toward the increase of nitrogen compounds in the soil, and though these are often a chief need and the most expensive to secure by fertilizing, they are not all that the soil usually needs. Other plant foods are not furnished by bacterial work. Another point is that the impression is produced by popular writers that the introduction of the germs will work wonders in all soils. This is also a misconception. These germs already occur in many soils and when they do there is nothing to be made by their introduction. When, then, the idea is advanced that these bacteria will do everything needed to increase crops and will do it everywhere the intelligent reader should conclude at once that the writer only knows about half of his subject.

In view of the tendency of the popular papers and magazines to indulge freely in agricultural topics it becomes the duty of the technical journal to see to it that its readers are given the exact facts. For this reason we devote space on this page to a careful discussion of what the bacteria concerned in nitrogenous affairs actually do in the soil and how they do it. Such a review has just been prepared by Mr. S. Fred Edwards, assistant in bacteriology in the Michigan Agricultural College, under the title: "Some Essential Soil Changes Produced by Micro-organisms," and we shall take from it such parts as serve our present purpose:

The Bacteria.—Bacteria are also plants, consisting, however, of but a single cell filled with protoplasm, which, like that of the higher plants, is continually active in assimilating from the surrounding medium the food elements necessary for its maintenance. These myriads of little plants, invisible to the naked eye, in taking their food from the chemical compounds of the soil, produce in these compounds just the changes necessary to render them useful to the higher plants in making their growth.

Conditions of Growth.—In order that bacterial activity may go on with undiminished vigor, there are certain conditions of the soil which must be provided, certain requirements of the bacteria which must be complied with, namely: temperature, moisture, reaction, respiration, and food supply.

Temperature.—Soil bacteria are most active at a temperature of 60° to 80° Fah., although some will grow at temperatures as low as 35° and as high as 98° Fah. Hence the different soil processes induced by bacterial action are carried on most rapidly during the summer months, and cease with the setting in of cold weather, proceeding again with the opening of spring.

Moisture.—As it is impossible for animals and higher plants to exist for any length of time without water, so it is impossible for bacteria of any kind to exist and be active without water. In the soil there must be moisture present, or the bacteria fail to grow and carry on their functions, in fact many of them will die; hence the necessity of the conservation of the soil moisture by frequent and thorough cultivation, not only for the benefit of the crop, but also for the benefit of the soil bacteria.

Reaction.—A third essential point in furnishing a proper environment for soil bacteria is to have the soil exhibit a proper reaction. Laboratory experience has shown that soil micro-organisms will not develop in an acid medium It must be about neutral or slightly alkaline to litmus. If too much humus is present in the soil the decomposition of the same may result in the formation of various organic acids which prevent further growth of bacteria. Such soil we say is "sour," and vegetation is scarce because the bacteria are checked and are unable to change the plant food to a form in which it may be assimilated. Such a condition may be remedied by the addition of lime to the soil in amounts of 1500 to 2000 pounds per acre. Considerable discretion should be observed, however, in the liming of soils, as actual tests often show that soils seemingly sour are, in reality, not acid, but rather are very perceptibly alkaline. On such lands the addition of lime would only aggravate rather than alleviate the trouble.

Respiration.—One of the first essentials for the vigorous growth of soil bacteria is a bountiful supply of oxygen, as most of them are checked in their growth in proportion as the oxygen supply is reduced. About one-half the volume of average soil under ordinary conditions is "pore space." The soil water is gathered in films round the soil granules, thus leaving air spaces of greater or less size according to the amount of moisture in the soil. It is through these openings and channels that the bacteria get the necessary supply of air for their growth. Here is further demonstrated the value of tillage in keeping the soil well aerated as well as to conserve the moisture present.

Food Supply.—Before discussing this requirement, it will be necessary to classify the soil organisms, as each class requires different food materials for its development. They may be broadly divided into four groups: First, the common saprophytic germs acting upon organic matter, which may be designated as the ammonifiers. Second, that group whose especial function is the destruction of nitrates, or the denitrifying organisms. Third, those which build up nitrates or the nitrifiers. Fourth, those whose sole function is to extract free nitrogen from the atmosphere.

Ammonification.—It will be remembered from the statements of the amount of plant food stored up in soil, that there is enough nitrogen to last only ninety years. Hence the all important question is that of the nitrogen supply.

When dead organic matter falls upon the ground, it immediately begins to undergo a process of decay. Dead animals left upon the ground or buried in it are decomposed, and the elements of the animal tissue are incorporated into the soil. Manure placed upon the land rots and enriches it. Dead plants decay and become again a part of the earth from which they sprung. All this decay is brought about by micro-organisms assisted by the elements. The first change that takes place is a breaking down of the complex nitrogenous substances. The albuminous matter is reduced to peptones by certain types of bacteria, and the peptones are reduced to free ammonia and other simple compounds by the same or other types. The starches and sugars meanwhile are undergoing fermentation into various organic acids and gases, as is also the cellulose or woody fiber of plants. Thus the organic matter becomes entirely decomposed, some of the different elements escaping in the form of gases, and others becoming a part of the soil where we shall meet them again later.

The organisms concerned in these different processes may all be placed among the ammonifiers. The life requirements of this group are of importance as touching the common soil operations.

A series of laboratory experiments demonstrated the advantage of a bountiful air supply. Flask cultures were made in mineral solutions having potassium nitrate for a basis and containing all the other elements necessary for bacterial growth besides some organic matter in the form of peptone. Four sets of cultures were inoculated with organisms found in different soils on the college farm. One set was placed in an atmosphere from which the oxygen had been completely removed; in the second set the flasks were sealed with wax; in the third they were simply plugged with cotton wool; and in the fourth they were thoroughly aerated. After eleven days the cultures were tested for decomposition products. The cultures which had been kept in an atmosphere devoid of oxygen showed only slight traces of ammonia; while the other cultures all showed ammonia in larger quantities, the amount increasing steadily and consistently with the increased amount of oxygen supplied. These results are significant as indicating the effect of the aeration of the compost heap. Manure and litter well packed down so that air is excluded will be much less liable to loss through decomposition and escape of ammonia than that which lies loosely packed, thus affording conditions for such decomposition.

Denitrification.—There is a process going on in the soil differing from the latter, which results in a direct loss of nitrogen. This is the phenomenon of denitrification, or nitrate destruction. This process is carried on by the denitrifying organisms, which attack the nitrates already formed in the soil, reducing them to nitrates and free ammonia, the fermentation sometimes going still further to the liberation of free nitrogen. If the soil be abundantly stocked with nitrates, the denitrifying bacteria, under favorable conditions would be capable of destroying a considerable portion of them. It is claimed by some workers that as high as 75% of the nitrogen applied to the soil in the form of nitrates is lost by this process. The results of recent investigation, however, tend to prove that this estimate is far too high. Research work upon the oxygen requirements point to the conclusion that the denitrifying organisms develop best when oxygen is excluded. From this conclusion we obtain another clue to the proper handling of the soil and the compost heap. If the soil is allowed to become packed and hardened through lack of cultivation, the air is excluded and one of the conditions favorable to denitrification is furnished. Again, if the compost heap is packed down the same result follows. But we have seen how probable loss would ensue by leaving the manure loosely compacted. How shall we avoid a loss?

By drawing out the manure as fast as it is made, and spreading it on the land. The loss from leaching is inconsiderable since much of the organic matter composing the manure is insoluble in water; and little decomposition would ensue owing to the dry condition the greater part of the time during the summer and the low temperature at other seasons of the year.

Nitrification.—Opposed to the process of nitrogen waste through denitrification is another process going on simultaneously with it in the soil; a synthetic, rather than an analytic process whereby simple nitrogen compounds are built up into more complex bodies. This is the process of nitrification, or nitrate building. In most species of plants the nitrogen necessary to their growth must be in the form of nitrates in order to be dissolved and carried in the sap for ready assimilation by the plant cells. The nitrifying organisms seize upon the ammonia which is formed by the degradation of the complex nitrogenous bodies by the ammonifiers, and by the addition of oxygen to it, they form nitric acid which combines readily with chemical bases in the soil to form nitrates, thus placing the nitrogen at the disposal of the plants.

The nitrifying organisms differ from the preceding classes in their food requirements in that, whereas the denitrifying and ammonifying organisms require at least a trace of organic matter for their best development, the nitrifying organisms do not require organic matter; in fact, they are incapable of growing in the same, although its presence in the soil to a certain extent does not prove fatal to their existence. Hence the advisability of putting too much manure on the land is to be doubted, inasmuch as there would be danger that the reducing bacteria, together with the leaching, would cause the loss of considerable nitrogen before a condition was arrived at under which the nitrifying organisms would be able to thrive.

Another point which is just as essential to the rapid development of the nitrifying organisms as a proper food supply, is that they should be furnished an abundance of oxygen, as they fail to perform their functions in its absence. Here is further shown the necessity for thorough cultivation in order to afford this supply. This fact would also suggest caution against too frequent fallowing of the land. If it is plowed, rolled down, and allowed to lie in that condition, nitrification would be diminished by lack of aeration and the reduction in moisture content. On the other hand, experience has shown that fallowing with frequent and thorough cultivation often gives beneficial results, due possibly to increased nitrification, with the result that, in the absence of a crop, the nitrates thus formed would be conserved.

Nitrogen Gathering Bacteria.—When seeds of plants not belonging to the clover family are placed in soil entirely destitute of nitrogen, but containing all the other chemical elements necessary for plant growth, they will start to grow, but as soon as the food material stored up in the seed itself is exhausted, the plants will wither and die. On the other hand, if seeds of the legumes be placed in the same soil they will also make a start. Then they begin to wither and undergo a period of "nitrogen hunger," after which they revive and make a vigorous growth. It is only in comparatively recent years that this phenomenon has been understood. If examination is made of the roots of peas, beans, clovers, alfalfa, and other plants belonging to the same family, there will be found on the roots small tubercles or nodules. When cut open and examined under the microscope these are found to contain myriads of bacteria which, by experimental investigation, have been proven to possess the property of extracting free nitrogen from the air. Thus it is that the clovers, themselves so rich in nitrogen, enrich the soil by bringing to it so much more nitrogen than they use up.

This phenomenon of extraction of nitrogen from the atmosphere is often successfully made use of in a practical way in reclaiming fields deficient in nitrogen. Fields that are badly run down through successive cropping may again be made to yield by inoculating with soil from a field which has recently borne a good crop of some legume, and sowing a leguminous crop. A good stand may often be secured in this way when other methods fail.

Whether organisms from one legume will produce nodules on other legumes and extract nitrogen from the air is still an open question. At first it was thought that each series of legumes would grow only one species of nitrogen gathering organisms. However, the results of recent research indicate that the nodular organisms from any host may produce nodules on any other host, but that they undergo more or less morphologic change in the transfer.

It is supposed that the nitrogen gathering organisms utilize the free nitrogen of the air only in proportion to the poverty of the soil in available nitrogen. In other words, the plant does not extract the free nitrogen from the air to any extent unless it is forced to do so. Hence it would be unnecessary to use a fertilizer containing nitrates on a field intended for a leguminous crop.

THE IRRIGATOR.

The Modesto Convention.

The convention of the State Irrigation Association at Modesto last week, as was duly announced in the Pacific Rural Press, was a very successful affair in many ways. There was attendance from the most distant part of the State and a fullness of interest taken by the many new irrigators in the Modesto and Turlock districts which lie adjacent. A number of good addresses upon the legal, engineering and economic aspect of irrigation were made, and quite emphatic declarations made on a number of important points. As opportunity offers we shall recur to some of the formal addresses. The resolutions, which were unanimously adopted after free discussion, show the trend of popular sentiment, and we shall present the most widely significant of them herewith:

For Conservative Legislation.—That the water of the State of California, and the water rights of its irrigators, are the foundation of its agricultural and horticultural prosperity; that the rights to the use of water by the individual irrigators are rights which, in most instances, have grown up under many years of continued use, or under decrees of competent courts, determining their status before the law; that the stability and security of title to water rights is quite as important as the stability of land titles; that anything approaching a general appeal of the existing laws of water and substituting therefor a new system is unnecessary and cannot fail to unsettle titles and create confusion and uncertainty as to values; and that the Legislature of California, in considering this important question, should proceed upon conservative lines, and when it is clearly shown that a wrong exists, for which there is no remedy in our present laws, seek only to recover that particular point, and to do so without disturbing the great body of our water laws.

Diversion and Public Ownership.—We believe in such modification of existing laws as shall ultimately render the land and water inseparable, and prevent the diversion of water from one watershed to another when it can be as beneficially used in its own watershed.

Federal Aid to Irrigation Districts.—The policy of constructing federal irrigation works under the Reclamation Act is hereby approved and indorsed and we request the California congressional delegation to fully sustain the work now in progress and under immediate contemplation, and to seek its greatest possible extension to the conditions now existing in our own State, and especially in irrigation districts now or hereafter organized.

Insist on Public Ownership.—We especially urge the reclamation service to keep well in view the fact that, in many of the newer localities of arid America, which they have under investigation, upon their firm and prompt stand for ownership of necessary irrigation works depends the fate of those districts, and not only of the people now living there, but of the multitude who will ultimately occupy the land.

Endorse Government Work.—The co-operative work now in progress on the part of the State of California and the hydrographic and topographic branches of the United States Geological Survey, the Bureau of Forestry and the irrigation and drainage investigations of the United States Department of Agriculture, for the joint investigation of the State and of the various questions relating to the economical use and distribution of water, is hereby endorsed and its continuance is recommended to the Governor and the State Legislature.

Our Forests.—We deem it of the greatest importance to the irrigators' interests that our forests on the mountains be preserved, and we urge our State Legislature to continue co-operation with the United States Government in practical work leading to more perfect protection of our watersheds against fire and depredations by excessive stock grazing, and to as rapidly as possible re-forest the denuded watersheds.

Future Irrigation Districts.—The Governor of California is requested to communicate with the Secretary of the Interior to ascertain whether the Secretary will detail engineers to pass upon the projects of new irrigation districts proposed to be created under the Wright law; and, if so, whether the Secretary will use the reclamation fund in aid of the construction works of irrigation districts already organized or to be organized.

Riverside Wins Next Convention.—The question of the place of meeting for the next convention was taken up and the representatives of Riverside, Fresno and San Jose, respectively, invited the association to meet in those cities. The arguments of the southern California delegation prevailed and Riverside was unanimously selected. The time of holding the convention was left with the officers of the association, with the recommendation that the conventions be held annually in the month of April.

Election of Officers.—C. S. Snodgrass of Fresno submitted the report of the committee on nominations, naming A. M. Drew of Fresno for president and George T. McCabe of Modesto for secretary, the president and secretary to appoint the vice-presidents. The report was unanimously adopted.

HORTICULTURE.

Conservatism in Date Ventures.

To the Editor:—Owing to the general interest which is being manifested in the introduction of date culture in California where suitable soil, irrigation and climatic conditions prevail, it seems timely that some definite statement be made regarding the status of the industry and chances for its ultimate success. The establishment of an experimental plantation in the Salton basin, within the borders of our State, has aroused a lagging interest in the enterprise which threatens to assume dangerous "boom" proportions. To allow this boom to continue would result in giving the industry a setback which it would take many years to overcome. I shall, therefore, in the course of what I have to say on the subject advise a conservative and careful consideration of the matter before any extended planting is decided upon.

The impression that the date palm is adapted to all desert conditions—soil, alkali, drought, etc.—is a wholly erroneous one. While palms will live and grow under exceedingly unfavorable conditions, they are not fruitful unless certain conditions prevail. The one important condition which should be kept in mind, above all others, is the presence of an unfailing and abundant supply of irrigation water. The date requires enormous quantities of water in order to ripen its fruits successfully. Where a shortage of water is liable to occur, the date palm is a precarious culture to engage in. In order to give some idea of the quantity of water necessary to carry on date culture successfully, I need only mention the fact that the French have found an average of 110 gallons per palm per day to be required during the four months comprising the hot season on the Sahara desert.

While the date requires a good supply of moisture around its roots, its tops will withstand the hottest, driest weather. In fact, it is only where a hot, dry climate prevails that the palm will prove profitable. A well-known Arab proverb runs, "The date palm, the queen of trees, must have her feet in running water and her head in the burning sky." From this it will be seen that the date palm is not essentially a desert plant in the same sense as we consider the cactus, the yucca, or other plants which grow and fruit on our desert situations with a minimum water supply.

Another determining factor in the successful culture of the date palm is winter temperature. While the palm will withstand more cold than the orange tree, it is not as hardy as the peach and perhaps not so hardy as the fig tree. Winter temperature, then, is of prime importance, because it should not be forgotten that while the orange and fig may be able to sprout again, if killed back by the cold, there is no such chance for the date palm. It has only one growing bud, and when that is destroyed the palm dies. We cannot lay too much stress upon this factor in the introduction of the date palm. It is a well-known fact that on our so-called deserts the temperatures are exceedingly high in summer and rather low in winter. It will therefore be necessary to determine with certainty both the summer and winter temperatures before we can hope to succeed with the date palm.

It has come to our notice that a number of persons are thinking of engaging in date culture, and some have gone so far as to order date palms from the Sahara desert. It is to caution these people that this article is written. While we do not in any way wish to interfere with the extension of the date industry, it is as yet too early to say definitely whether or not the industry is going to be a practical success. The experimental plantation which has been established jointly by the United States Department of Agriculture and the California Experiment Station near Mecca, in the Salton basin, is less than a year old. The palms which were planted there were imported at a great expense by the United States Department of Agriculture, and while they have grown even better than was expected during the first summer season, it must not be forgotten that they have as yet the winter season to endure before it can be said definitely whether they will prove wholly successful. There are cases on record where palm offshoots which rooted and grew admirably during the first summer were destroyed the following winter. The coming winter therefore may, in a measure, be considered the crucial test of date culture in the region where the experimental plantation has been established and in similar places. Should the coming winter, then, be one of usual severity, and if the palms which are now planted succeed in withstanding the low temperatures, it is reasonable to suppose that they will be able to pass the succeeding winters, because it is a well-known fact that date palms are unable to withstand as much cold the first winter after they are planted than after they have become larger and better established.

I would therefore caution all persons who are thinking of engaging in date culture to consider well the points which I have mentioned before deciding on going ahead. It would be far better to await the results of the coming winter than to rush in blindly and be disappointed in the future.

Another reason why a conservative action is advisable is the fact that we do not as yet know what varieties will be best suited to our conditions. It is easy to assume that certain varieties will be successful in our State on the score that they succeed in countries having similar soil and climatic conditions. But this assumption is not safe. The records of both summer and winter temperatures which we have of different sections of the Salton basin are meager and at best not wholly reliable. Then, again, there may be some unforeseen conditions which can only be determined by actual experience. The date palm may require special treatment under our conditions and, therefore, it may prove that the practices which prevail in other countries may not be suited to ours. It will be the purpose of the experimental plantation to determine these points. An attempt will be made to represent all the known varieties of dates in the world in the collections which will eventually be planted at Mecca, but it will require several years before it is actually known which varieties will be best suited to the prevailing conditions. And hence it is that intending planters should await with patience the results of the Government experiment.

The importation of offshoots from the Sahara and other countries is expensive. It is expensive to transport the offshoots to our country. Then, too, a certain percentage of loss must be expected, owing to the length of time the offshoots must be on the way. It will be seen, therefore, that an experimental planting is expensive, and while the Government and State can afford the risk of planting different varieties in an experimental way, very few individuals can afford to run such a risk.

In closing, I should say that this article is written wholly with the intention of arresting the "booming" of date culture. It is in no way intended to stop the development of the industry along rational lines. We advise conservative and careful consideration on the part of intending planters and a degree of patience in awaiting the results of the Government experiment as the foundation for future success in date culture.

A. V. Stubenrauch,
In charge of Government Date Garden at Mecca, Cal.
University of California, Berkeley, Oct. 18.

Strawberry Growing.

Mr. C. A. Warner of Prosser, Wash., prepares for the Northwest Horticulturist an account of his experience in strawberry growing, which will be read with interest in this State because many of the conditions under which he works resemble ours, as he is in a dry, irrigated district.

Choice of Soil.—Hard, flinty clay or light, drifting sand is bad for strawberry growing. A light clay or sandy loam I consider the best. Land lying as high as any in a vicinity should be selected in preference to the lower lands, in order to have air, drainage and protection from frost. South slopes mature fruit earlier than land sloping to the north. When in full bearing strawberry plants absorb enormous quantities of moisture and the mineral elements of potash, nitrogen and phosphoric acid, and for best results these must be replenished.

Choice of Plants.—Successful strawberry growers study plant life and soil conditions. They will have good, strong, well-developed plants raised from mother plants, with fruit and vegetative qualities evenly supported. I venture to say that in the not far distant future no man will buy a strawberry plant unless provided with a means of knowing its productiveness (pedigree). Too many planters say one plant is as good as another, but they are continually going out of berry raising. The scrub plants are unbalanced, going too much to runners instead of fruit. Strawberry growers have made a practice of raising as many crops of berries as possible, then letting the plants run out over the ground, plowing, harrowing and raking them out to reset and to sell. Then people wonder why their plants do not produce more and larger fruit. I have been told that a Clarke's seedling plant is just as good bought from one man as from another, without regard to productive developments. Many will try saving $10 or $15 per acre on inferior plants and lose 50% in a deficient crop of seventy-five crates, while the restricted plants should produce double that amount, with better colored and larger fruit.

Preparation of Land.—The second essential is to put the land in proper shape. Raise hoed crops two or three years previous to planting and manure heavily each year. Fresh stable compost evenly spread is excellent. Avoid coarse or strawy manure, as it prevents a free capillary action, causing the soil to dry out. It should be thoroughly incorporated with the soil, disced and harrowed several times after plowing, so as to decompose quickly and make plant

food available. Chicken manure mixed with dry earth is excellent for stimulating strawberry plants. Previous cropping with clover and the last of two years growing plowed under is excellent to help fix nitrogen and humus in the soil, which are necessary for big crops.

In the irrigated sections the quickest way to prepare the ground is, after clearing, leveling and plowing, to sow cowpeas in June and plow the crop under in September. About two bushels of seed is required per acre. Condensed fertilizers should not be put closer than within 6 inches of the plant. Roots will cover the entire space between the rows—34 to 36 inches. Be very careful not to cultivate too deep, but do it often, so as to keep the moisture from escaping. Stir the surface often and do not wait for the appearance of any weeds. This is very important.

Planting.—Set plants from 14 to 18 inches apart in the row, on the level, and nip off blossoms and runners the first year. Every runner cut will produce an extra crown or an additional stem of berries the coming year, and as new roots are formed each year they naturally seek the surface and available plant food. I have many plants one year old which produced from one to two quarts of berries, but not from exhausted plants.

In setting plants, the roots should be spread out and about 1 inch of damp dust pressed down firmly upon them, then 1 inch of ground—preferably dry—to keep moisture from escaping.

When set, the crowns of the plants should be fully 1 inch above the level of the surface, except that on light, volcanic ash the crowns may be level with the surface. It is advisable to thoroughly clod mash the ground before setting the plants by means of roller or other suitable implement. Perfectly straight rows facilitate cultivation and irrigation. Under irrigation, water every three or four days, but do not flood; then start a shallow cultivator in about a month.

Second Year.—The lion's share of cultivation should be done in the months of July, August and September. After August the cultivation should be very shallow. Never cultivate close to the plant in the late fall or early spring. Keep runners cut off and all weeds pulled out, using the hoe and cultivator in as shallow a way as possible during the growing season in the spring. After picking is over take a scythe, run the point close to the ground, within 2 or 3 inches of the plant, cut off one side of the row and, returning, cut off the other side, including runners and tops. When dry, and if thick enough, burn or else remove with a horse rake. When the field is clear is the best time to manure with a compost made of stable manure and, if obtainable, one-fifth of its bulk of hen manure, spread between the rows to within 6 inches of the plants, and incorporate it in the soil with a cultivator.

Set the horse at work again and give the field a thorough cleaning, and, if hill culture, cut off all runners between the hills. I am partial to hill culture, for there is where I find the largest and highest colored berries, and they will measure up with the matted row with less expense in picking and command a higher market price.

When winter sets in have the beds clean from runners and weeds. In this mild valley we do not mulch, but where the ground freezes to any depth use straw or long grass for mulch, or even coarse stable manure spread on thinly, and leave it until late in the spring.

Varieties.—In selecting varieties it is well to consider the preferences of the markets where the berries are to be sold. In places a pale yellow, like the Haverland type, takes well. Other markets want only the deep red to center kinds. Of the numerous kinds tried in this section, I have selected nine which are well adapted to the markets reached by the growers of the Pacific Northwest.

Excelsior is generally accepted as one of the best extra early berries. It stools up rapidly when runners are kept off, and succeeds on nearly all kinds of soil. It is about three days earlier than Clarke's Seedling.

Second—Clarke's Seedling. None can find fault with this berry, except its sparse bearing. It is a splendid shipper and one of the best for canning. I have selected and restricted it for three years and some of my plants, spring set, have twenty crowns and over—September 1.

Third—Warfield. Perhaps more of this variety is now being grown as a market and shipping berry than any other in the United States. It does well on any loamy or even heavy clay soil, but not so well on light sand. Berries are deep blood red to center and one of the very best for canning; an excellent fruiter; is a pistillate variety.

Fourth—Enormous. Its name indicates size, but berries are not hollow, as many have thought; meaty; dark red; cone-shaped and of high quality—the fruit for any market; a pistillate.

Fifth—Brandywine. One of the grandest ever introduced and generally wanted. It is large, oval, and blood red to center and of Clarke's Seedling type; bi-sexual.

Sixth—Guess the name. Few berries were ever introduced in which people manifested as much enthusiasm as they do over this. It has the right organism for producing large berries and quantities of them—as beautiful as any ever grown; bright in color, fine shape, and last picking among the latest should be a leader for the late market; a pistillate.

Seventh—Marshall. It is considered one of the largest berries grown, but on the Yakima valley soil I find others fully as large. It has the delicious flavor of the wild berry—sweet, fine to eat from the stem; makes but few runners; should be grown in hills; bi-sexual.

Eighth—Haverland. It is the standard of productiveness when plants are not taken from exhausted hills. In the hill or on the hedge row it stools up to an enormous size and the berries lie in windrows all around the plant. The stems are long, slender, and do not hold berries up, so there must be mulching to keep them off the ground. It is not considered a firm berry, but has a tough skin that makes it handle well in a near market; a pistillate.

Ninth—Magoon. It takes well in some markets and is very productive in some localities. It is of the Glen Mary and Rough Rider type. I do not consider it a very firm berry, but it is of good size; bi-sexual.

The Haverland and Magoon are pale red. All the others described are deep red to center and excellent berries. I have taken extra pains to select these nine varieties from over fifty different sorts and believe there are none better adapted to our purpose. Among my plants, from selection and restriction, covering a period of fifteen years, excellent producers have been obtained.

CEREAL CROPS.

How the Grain Goes to Market.

In a recent bulletin of the United States Department of Agriculture, on "Methods and Routes for Exporting Farm Products," prepared by Mr. E. G. Ward, Jr., it is stated that fully 80% of the agricultural exports of the United States consists of cotton, grain and grain products, and meat and meat products.

The grain movement is still heavier through the Atlantic and through the Gulf ports. If, however, the wheat exports for the year ended June 30, 1904, are alone considered, it will be found that the Gulf ports outdistanced all competitors, Galveston handling over 50% and New Orleans more than 20% of all wheat passing through the important gateways of the Atlantic and Gulf. But as wheat exports were very light last year, amounting to only one-third of the shipments of the previous year, and but little more than one-tenth of those of 1902, it is highly improbable that the Gulf ports could maintain the relative importance thus acquired in the event of a large export movement, such as occurred in past years. Nevertheless, the increase in wheat exports through New Orleans and Galveston has, within recent years, been very rapid, whether viewed from a relative or an actual standpoint, and present conditions indicate that these cities will continue to occupy an important position in connection with the handling of the country's surplus grain. Galveston's increase has been so remarkable as to attract the attention of shippers from all parts of the country. Fourteen years ago this port had no standing whatever as an exporter of wheat. In fact, as late as 1897 the movement was very small, amounting only to about 3,500,000 bushels. Since then, however, shipments have increased so rapidly that the year ended June 30, 1904, witnessed a movement through Galveston of over 17,000,000 bushels, placing her in the position of being the only port on the Atlantic or Gulf coast whose exports for the fiscal year 1904 exceeded those of the year previous.

Corn continues to move much more heavily through the Atlantic than through the Gulf ports, and it is due to this fact that the former still claim the advantage of being the heaviest exporters of cereals.

The situation governing the export movement of grain on the Pacific coast is entirely different from that which controls the movement through Atlantic and Gulf ports. To a great extent the surplus grain of each State naturally seeks an outlet through the port or ports of its own State, and, although there is some rivalry between ports with regard to certain restricted areas, competition, as it is understood in the East, does not exist. Wheat and barley are the principal grains shipped, and they are destined chiefly for European markets, the United Kingdom being by far the heaviest purchaser. Shipments of wheat, though of considerable commercial importance, are small as compared with those from the Atlantic coast, but with barley shipments it is different. California is the greatest barley-producing State in the Union, and, as her surplus crop is more than sufficient to meet foreign demands, San Francisco naturally becomes the gateway through which the bulk of the barley exports move.

In the ocean transportation of agricultural exports, steam vessels are almost exclusively employed. A notable exception to this, however, is grain shipped from Pacific coast ports to European markets, which is carried almost exclusively in sailing vessels.

Ocean rates on merchandise shipped from Atlantic and Gulf ports are subject to constant and often violent fluctuations, largely due to an active and unrestrained competition between the different steamship lines. The general trend of rates is mainly regulated by the law of supply and demand, plentiful traffic meaning a high rate, and scarcity of traffic, during which time competition is more severe, a low rate.

On the Pacific coast, however, and especially in connection with the trade between the northern Pacific ports and the Orient, conditions are radically different. There the regular steamship lines are comparatively few in number, and they have entered upon an agreement by which they issue a joint tariff on ocean rates to eastern countries, these rates being well maintained.

THE DAIRY.

Creamery Operators' Convention.

The executive committee of the California Creamery Operators' Association has completed arrangements for the fifth annual convention to be held at Fresno, December 2d and 3d. The committee is determined to make this the best convention in the history of the Association. It will have the assistance of the city of Fresno, through its chamber of commerce. The early selection of Fresno as the place for the convention seems to have aroused a great deal of interest in the meeting and from many creamerymen, dairymen and others come assurances of a large attendance. For the first time the convention will have a local as well as a State interest. Heretofore they have been held in San Francisco, with the exception of last year, and not as large local interest attached to them as will be the case in the center of a dairy section of such proportions as the San Joaquin valley is assuming.

Those in charge of the convention also hope for a good attendance from southern California. The butter trade and the creameries down there are more interested in San Joaquin dairy interests than is the north and there are many questions that they will be interested in discussing with the producers in the valley and the dealers from up this way. The railroads have been asked to grant a low excursion rate.

A butter contest will in all probability be held on fresh goods, as well as on the storage entries, which were made early in the season and are being held.

The following program has been outlined and, with possibly some minor changes, will be issued as the official program. It is certainly very interesting in its make-up and covers a variety of subjects of great moment to the dairy and creamery interests. In view of the approaching session of the Legislature, there should be a free discussion on the topics presented.

Program.—10 A. M. December 2—Address of welcome, Mayor of Fresno. Response, Mr. H. P. Glasier, Oakland.

President's address, Mr. George G. Knox, Sacramento.

Report of Secretary-Treasurer, Mr. Wm. H. Saylor, San Francisco.

"Our Association: How May Its Usefulness be Extended to the Creamery and Dairy Interests?" Mr. C. E. Hill, San Francisco. Discussion, Mr. G. W. Kneib, San Francisco; Mr. George E. Peoples, Oakland.

Afternoon, December 2—"Proposed Legislation to Regulate the Weight of Print Butter, Water in Butter and Coloring," Mr. Jesse Durham, Selma. Discussion, Mr. J. P. Murphy, Fresno; Mr. C. W. Cartmill, Tulare; Mr. C. H. Schmidt, Merced.

"Proposed Legislation Relative to Agricultural Education," Hon. Peter J. Shields, Sacramento. Discussion, Mr. George W. Peltier, Sacramento; Prof. E. W. Major, Berkeley.

"Extending Educational Influence Among Dairymen," Dr. Leroy Anderson, Director of California Polytechnic School, San Luis Obispo.

Morning, December 3—"Benefit to be Derived From Pasteurization in Butter Making," Mr. A. Jensen, Ferndale. Discussion, Mr. W. B. Franklin, Oakland; Mr. H. F. Lyon, Alameda.

"California's Great Need—Better Dairy Cattle," Prof. E. W. Major, University of California, Berkeley. Discussion, Mr. Charles D. Pierce, Stockton; Mr. J. W. McCord, Hanford; Mr. E. Larson, Fresno.

"The Farm Separator: Its Use and Abuse," Mr. J. V. Sheppard, Petaluma. Discussion, Mr. E H. Hageman, Fresno; Mr. C. A. Starkweather, Los Banos.

"The National Creamery Butter Makers' Convention," Mr. G. A. McEdward. Discussion, Mr. E. T. Fitzpatrick, San Francisco.

Afternoon, December 3—"Proposed Legislation Relative to Prohibiting the Misbranding of Butter," Mr. A. B. Evans, Fresno. Discussion, Mr. F. J. Peacock, Hanford; Mr. I. C. Bateman, San Francisco.

"Is a State or District Creamery Exchange a Possibility?" Mr. C. C. Ridgway, Porterville. Discussion, Mr. W. H. Roussel, San Francisco: Mr. George A. Smith, Los Angeles: Mr. C. Raab, Los Angeles; Mr. George T. McCabe, Modesto.

Report of judges on butter exhibit. Election of officers; and in the evening the annual banquet.

Agricultural Review.

Colusa.

RIPE DATES.—Sun: Mr. C. W. Tuttle has in his yard several date palms, and there is ripe fruit on the trees. His children gather and eat the dates. We ate some of them and found them very palatable; in fact, they taste precisely like the imported article, but they are not so meaty. They are ripe, however, long before any danger of frost. Mr. Tuttle's place is out on the west end of town, and entirely unprotected from the northwest winds, which are the winds that bring frost. The palm trees in the yard of the Riverside hotel produced ripe fruit, but they might have been said to be protected. The trees with this fruit are out in just "plain Sacramento valley," claiming no immunity not due to any other spot in the valley.

MAMMOTH SUNFLOWER.—W. W. Kilgore of Grand Island brought to the office a couple of sunflowers of different varieties, but both very large. One with black seed was entirely flat and was 1 foot in diameter. The other, with striped seed, was oval in form and measured from side to side 17½ inches. In this there were sixteen seeds to the inch and, as the surface was 17½ inches, the square of the circle gave 24 square inches, and this by 16 gives us 2840 seeds.

Humboldt.

PEAS RUINED.— Washington special to Eureka Standard: The recent rainy weather has about spoiled the late pea crops—in faet, there are great fields of peas and grain that will now only be fit for hog feed. Some farmers did not get any threshing done at all.

Kings.

BIG POTATO.—Hanford Sentinel: J. B. Vigario has a sample of Kings county sweet potatoes that heats all yet reported. The sample was raised by Joe Roduregues, east of Hanford, and weighed twenty-two pounds.

A LARGE SPECIMEN.—C. K. McBee brought in a fine specimen of a yam which he produced on his ranch 2 miles southeast of Lemoore. It weighs about eight pounds.

A BIG QUINCE.—Fred W. Parker of Hanford has a quince off his place which measures 16¼ inches in circumference.

Los Angeles.

BANNER PRICES.—Azusa Pomotropic: The highest priced car of oranges ever shipped from Azusa was sold in New York City on October 6th. This car was packed by the Azusa Foothill Citrus Association and contained 400 boxes of Valencias of their Blue Seal, Red Shield and Green Crown brands. The average prices obtained at the auction Saturday were $6.75, $5.13 and $4.84 per box for the three grades, respectively, the range of prices being from $7.63 to $4.25 per box. The car brought $2274.35 gross, or $1788.25 net, to the A. C. G. Fruit Exchange, and this figure is likely to stand for some time as the high water mark for Azusa oranges.

ORANGE RETURNS.—The Azusa Citrus Association has paid a final dividend on the September shipments of Valencia oranges, the average net returns on all grades being $2.11 per box. The final shipment of oranges of the crop of 1903–4 went out on the 17th inst. from the packing house of the Azusa Foothill Citru Association. The new crop Navels promise to be unusually early and considerable fruit will be ready for shipment in November.

Modoc.

CAPTURING WILD HORSES. — Cedarville special to Sacramento Bee: The work of capturing wild horses in the vicinity of Fox mountain and Madeline plains has begun and several animals have been taken. This country is practically a wild unbroken stretch of mountains in western Nevada and eastern California that is too rough for any purpose except grazing, and over which several thousand head of wild horses roam. The captured animals are invariably small, but well proportioned, and prove to be hardy, serviceable and obedient after being broken.

San Bernardino.

MUST FEED THE BEES.—Redlands Review: Nearly every owner must feed or let his bees die. The rains which have come have not been at the right season of the year, and they have failed to bring forth flowers of the right variety. There is one flower known as the blue curl which has some honey in it, and from which fall honey is generally made, but this is not in evidence thus far this year, and the chances are that it will not come in any quantity. Only one man, who has an apiary in the mountains east of Redlands, has secured any honey at all, and he has been able to take very little. It will be necessary to keep up feeding until May, when the first honey is made by the bees from the black sage. This brush alone produces more of the sweetness than the other products. After the black sage comes the white sage, and later in the summer the buckwheat flower.

ATTACKED BY ENRAGED BULL.—Sun: J. M. Cardiff, a rancher, was attacked by a mad Jersey bull in a corral at his home yesterday, and sustained two broken ribs and severe bruises about the chest and body. That Mr. Cardiff was not killed outright is probably due to the presence of mind he displayed by catching hold of a ring in the bull's nose. While the bellowing animal was endeavoring to gore to death his imagined enemy, Mr. Cardiff was exerting his utmost strength to prevent the horns of the animal from pinioning him to the ground. When the bull made the first attack Mr. Cardiff was near the fence and became jammed against the posts. After he extricated himself from his perilous position he was knocked down. Cardiff finally managed to get through a fence and save himself. He called loudly for help during the unequal fight, but the men of the ranch were at that time eating their dinners and did not hear the man's cries. Mr. Cardiff had been attacked by this same bull before, but on these occasions the animal was beaten off before it could do any damage.

San Joaquin.

REMARKABLE YIELD.—Lodi Sentinel: J. S. Harney has a ten-acre field of alfalfa at his farm, three miles southeast of Lodi, from which he has cut seven crops of feed during the year. It is almost ready for the eighth cutting.

FLAX CULTURE.—The excellence of flax grown in this county may be seen by viewing the samples on exhibition at the Chamber of Commerce headquarters in Stockton. The flax was grown on the property of the Middle River Navigation & Canal Co. at Holt by Dr. Justin K. Toles, the fiber expert of the company. Samples of the stuff are to be sent to St. Louis to complete the county exhibit there. The seed was sown March 9th. The straw was pulled from June 6 to 16, 1904. The yield of flax straw was over four tons to the acre and the seed taken from this straw over sixteen bushels to the acre. The average height of straw was thirty-four inches. The samples of retted fiber show the difference in retting properties of the water. The fiber possesses beautiful luster and is of excellent staple.

GRAPE SHIPPING NEARLY OVER.—Lodi special to Sacramento Bee: Shipments of Tokay and Black Prince grapes have been practically suspended. Cornichons and Emperors are going out; and when about twenty cars have been shipped, the season will end in this district. The two wineries here are running day and night to handle the large crop. Since the table grapes were rendered unfit for shipping through the rains, the growers have been sending them to the wineries.

Santa Barbara.

BEANS TURNING OUT WELL.—Santa Maria Graphic: Bean threshing was resumed on Wednesday and the crop is said to be turning out well, notwithstanding the recent rains which threatened to destroy it altogether. We are now having ideal weather, more like June than October, and in consequence feed on the ranges and pasture is growing at a rapid rate. Incidentally, weeds are becoming so bothersome that they have to be looked after with an axe unless some other method of extermination can be devised. Of course, plowing will help some.

Solano.

STOCK ATTACKED BY STRANGE DISEASE.—Benicia special to Sacramento Bee: An unknown disease is slowly creeping into the live stock of the ranchers in this vicinity. Veterinary Surgeon Johnston of Suisun, whose services have been sought by the stockmen, has not been able to classify it. Numerous horses and cows have died. On the Glaier ranch a horse died this week, and when cut open by Dr. Johnston was found to be rotting away. The liver was extracted and when taken in his hands crumbled like clay. This is the first stock disease of this nature recorded in the county.

Sonoma.

IMPROVED OUTLOOK FOR GRAPE GROWERS.—Windsor Herald: All the cooperage at the Chisholm winery was filled with wine last Saturday and a force of coopers was put on and put up some big tanks which have been filled this week. Mr. Chisholm lost over forty tons of grapes in his own vineyards while his crushers were being run on the grapes of his neighbors, whose crops were suffering from the recent rains. He considers that the small wineries are just now entering an era of unprecedented prosperity, and that the time is not far distant when the individual producer and broker will control California's wine and her wine markets.

HOPS SOLD.—Windsor Herald: A portion of Russian River township's hop crop has been sold. Twenty-six cars—2345 bales—have been shipped from the local switch. There are over 600 bales yet to be shipped. Hops are selling at 30 cents per pound, and a bale weighs 200 pounds, making a total of $140,700 for hops already marketed, and $176,700 for the visible supply to be shipped from this point. This includes only that portion of the crop grown within a few miles of Windsor.

PRUNE CROP FALLS SHORT.—Santa Rosa Republican: The prune crop of Sonoma county for 1904 was estimated at 60% of the amount of last year's crop, while it was on the trees. Recently developments show that this estimate was fully 10% higher than it should have been, and that the crop of the present season is only one-half of that of the previous year.

GRAPE PICKING.—Petaluma Courier, Oct. 19: Grape picking is still in progress in a numher of vineyards in the county. On account of the damage done to the grapes by the heavy rain the bunches that are picked now have to be selected. Grape picking and wine making will end within the next few days at the Asti colony. The bulk of the grapes in the hundreds of acres of vineyard at the colony were picked before the rain commenced, and were harvested in fine shape. The crop of grapes was a very large one and the vintage is likewise heavy. The hot sun early in the season caused a shrinkage of the grapes.

CLOVERDALE WOOL SALE. — Santa Rosa Press-Democrat, Oct. 20: C. C. Farmer returned Wednesday from Cloverdale, where he attended the fall wool sale. Mr. Farmer reports that several hundred sacks of wool were disposed of and the highest price obtained for choice was 17½ cents per pound. The sale was fairly well attended.

HIGHEST PRICE FOR FALL WOOL.—Healdsburg Enterprise: George Jacobs, the well-known wool grower, has the credit of receiving the highest price paid for wool so far this season. Wednesday he disposed of his fall clip of thirteen bales to Crocket Gaines and the price paid was 17½ cents. Mr. Jacobs had a nice, clean clip.

Stanislaus.

A VALUABLE COW.—Modesto News: The dairy test for one of the cows belonging to the herd of Charles Rosell, for the month of September, shows most gratifying results. The animal has Holstein, Durham and Jersey blood in her. During the first ten days of September she produced seventy-nine pounds of butter fat. She maintained this amount during the next ten and in the last ten she produced fifty-one and one-half pounds of butter fat, earning for her owner during the month $17.98.

Sutter.

INCREASING ASPARAGUS PLANTING.—Yuba City Farmer: Mrs. Mary S. Smith, who planted a portion of the slough land on her place below Yuba City to asparagus a year or two ago will increase the field this season to about fifteen acres. Last spring she cut some of the "grass" and sold same in the local markets and the coming season expects to have quite a crop, taking into consideration the age of the plants. The canneries are anxious to add this plant to their usual pack of fruit and there is much land in the slough adapted to the culture of the same.

Tehama.

PRETTY GOOD CORN.—Corning Observer: We noticed some ears of corn in Aitken & Case's office the other day that would tend to make one weaken on the common saying that this is not a good country for corn. The corn was grown on Richfield colony and was really as fine corn as we ever saw anywhere. The kernels were sound and good and the cars were big and heavy. A sample of the yellow corn measured 10 inches in length, and several ears of the white variety, although averaging slightly smaller, were good enough to make one believe that the place where it grew was as good as Missouri or even the original corn State, Iowa.

YOUNG ORANGE ORCHARD.—F. J. Roche of Corning has a thrifty orange orchard of 450 trees of 1-year-old Washington Navel buds on 2-year-old stock. The trees were set out in April, 1903. Several are bearing from one to six oranges. Thinking six too many for such young trees, one was removed and measured 9½x10 inches in circumference. The trees bearing the fruit are growing as rapidly as those with none.

Tulare.

GRAPES BEING CANNED.—Times, Oct. 20: The work of canning grapes at the new cannery, begun last Saturday, is progressing at a lively rate. There are about 150 hands employed altogether, the larger number being in the canning department. The grapes are first picked from the stems into small boxes and taken to the canning tables, where they are poured into the cans. Work may he completed to-morrow or it may continue during the remainder of the week, depending upon the orders received. About 2000 cases have been packed during the past three days.

SOLD THEIR PRUNES.—Visalia Delta, Oct. 20: The Visalia Orchard Co., whose interests are ably looked after by the efficient manager, M. J. Rouse, have completed the delivery of their entire 1904 crop of dried prunes to the purchasers, the J. K. Armsby Co. The crop this year aggregated 300 tons of the cured product, which is considerably in advance of last year's output. They averaged extra well for size, and the price received was a satisfactory figure. While the crop this year was not so large as the record breaker of two seasons ago, what was lacking in weight was made up in quality.

Ventura.

LIMA BEANS.—Oxnard Courier: The bean harvest has now reached a point where it is easier to estimate than at any previous time. At the end of this week there will he few left unthreshed. The estimate of the county's crop is variously stated by the different bean sharps, and they do not agree by several thousand sacks. One man who has kept his eye on the crop of the county for a good many years says the crop cannot reach the 300,000 bag limit this year, no matter who says it can. Another man who makes beans his main topic of conversation says there will be over the 300,000 hag limit. Still another expert says the crop will exceed the limit placed upon it by the first guesser by at least 10,000 bags, and he offers to place good money on the figures he gives. Bruce Garner, the foreman of the Oxnard warehouse, doesn't bother his head with figures, but he says there are nearly 70,000 sacks of beans in the house here, and that they are nearly all of an excellent quality. Further, he says the other warehouses are pretty well filled, and he thinks the crop will exceed the much-mooted limit. The price has been steadily advancing this month, and one or two sellers have received 4 cents for their beans within the last day or two.

BEET SUGAR HARVEST.—Oxnard Courier: From the managers of the large sugar factory here we learn that the present campaign is one of the most successful that has ever taken place here. From the day that the machinery was started there has been scarcely a hitch and no stops. About 103,000 tons of beets have been worked up into sugar, and there is enough for a steady run of four or five weeks yet. The rains did not hurt the crop enough to speak of and the sugar content of the beets has been highly satisfactory to all concerned. It is true that the beets which caused this big run for so long a time did not all come from this vicinity, the Chino country sending a good many, yet the greater portion came from this valley.



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The Home Circle.

The Harvest Apple Tree.

The old harvest apple tree—
Haunt of hoy and bird and hee—
With its arms held wide to welcome all
the breeze's revelry!
You remember where it grew,
And remember how we knew
All the goodness and the gladness that it
held for me and you.

When the wind was soft and low,
How the leaves swayed to and fro
With the sunshine sifting through them
to the dappled grass below;
And the shimmer and the shade
Were an endless cavalcade
Of the fairy troops of summer to attend
us as we played.

In the branches, waving high,
We were sailors, and we'd cry
An ahoy! to all the argosies of clouds
a-scudding hy.
On the grass below we'd weave
All the fancies that deceive
And convince us of the trueness of the
land of make-believe.

And the yellow apples, too—
Sweetened by the dripping dew,
Faintly blushing at the kisses that the
teasing sunshine threw—
O, the famous Hesperides
Never yielded such as these,
With a winy twang that coaxed us till we
sipped it to the lees!

The old harvest apple tree—
Haunt of hoy and bird and hee—
With its arms that waved a welcome
every day to you and me.
Clear in memory's dim haze,
Happily it swings and sways,
Wafting us a thousand echoes of the
cherished yesterdays.

—W. D. Neshit.

Stirring Hallowe'en Story.

"Hi, there, kid, what's the matter?" called the leader of the "Jolly Rovers," as he scrambled out of the gravel pit, followed by his half-dozen companions. A tousled head was slowly raised and a dirty tear-stained face turned toward the boys for a moment, and then disappeared behind a heap of autumn leaves from whence issued the shouts of renewed lamentation.

"Oh, come now, stop your bawlin'," said "Lammy" Jones, as the seven boys surrounded the sobbing child.

"Shut up yourself, 'Lam,' you're enough to frighten the kid into forty fits," and the leader stopped and, turning the lad over gently, placed him in an upright position against the fence.

"Why, it's Johnny Tobias," said "Pudge" Taylor, the youngest of the "Rovers," as he pushed the boys aside in order to get a better look at the object of their sudden disbandment.

"What you cryin' for, anyway?" Johnny Tobias wiped his eyes on his ragged coatsleeve and replied between his sobs.

"We's all a-goin' to the porehouse, boo-hoo-hoo!"

"Not much you ain't," replied Pudge, twirling his hickory club with the skill of a drum major.

Johnny nodded his head vehemently. "Yessir, that's what Deac'n Rob'ns'n told my maw this mornin'. Says he, 'You all's got to get out th' first November, th' church won't take ker of a growin' fambly any longer. I 'low the porehouse is the bestest place.' An' he's a-goin' to take old Cherry fer the stuff we buyed at his store. Oh, I ain't a-goin' to no porehouse, boo-hoo-hoo!"

"Well, I swan," exclaimed the leader, "just listen to that, the deacon takes the widow's cow and then calmly tells her to go the porehouse; boys, there's something wrong with this kind of religion; 'tain't what they taught when I when to Sunday-school." The boys grinned appreciatively. Never in all their lives had a resident of the village of Squatsam been sent to the poorhouse. The people were frugal and industrious, putting by enough to care for them in their declining years. William Tobias had died in the spring, leaving a widow and three children. Mrs. Tobias cheerfully took up her burden and paid the doctor and undertaker. This took all of the little she and her husband had been able to save. The brave woman did not realize how heavy was the burden she was bearing until her strength gave out and she was no longer able to work. For two months the church of which she was a member ministered to her necessities. Mrs. Tobias was appreciative but did not gain strength as rapidly as she had hoped and the deacons, seeing a long, hard winter before them, held a meeting and resolved to shift their burden. Deacon Avery argued: "It ain't no use, brethren, tryin' to kerry more than our share; we've the new parsonage to pay for; the note comes due in Jenucry and me and Brother Snow had to borry the money to pay the interest. The Tobiases ain't never more'n paid their reg'lar dues, anyhow. We're taxed enough to support the county house 'thout takin' ker of the poor." And as this was the sentiment of the assembled deacons, they appointed one of their number to wait on Mrs. Tobias and inform her of their decision.

The Jolly Rovers had been in existence about two years. They were considered a "hard lot," and all the mischief and roguery done in the village was laid at their door, but they were good boys at heart and were not guilty of half the meanness attributed to them. To be sure, they spent a great deal of time hunting, fishing and trapping, but the time might have been worse spent. They were good trappers and earned considerable every winter selling skins. All money had been put in a common fund by the Jolly Rovers for the purpose of buying the best steel traps, new guns and ammunition.

Their greatest ambition was to dress in fringed "buckskins," and they now had almost enough to procure the desired costumes. This was the subject under discussion when the lamentation of Johnny interrupted their meeting. The Jolly Rovers squatted on the ground around the crackling fire in the old gravel pit, Johnny had been sent home happy in the possession of a brand-new dime and they were free to discuss the widow's poverty. It was late when they disbanded, but they had evolved a plan to save the widow Tobias, and at the same time give the deacon a lesson in Christian charity.

Hallowe'en found the Squatsam boys fully prepared for a royal celebration. The shadows of night had scarcely settled over the quiet village when its streets became the scenes of wildest pandemonium. Showers of split peas and beans greeted the belated pedestrain. A party of very lively ghosts went from house to house peering into windows, which they illuminated by a grinning jack-lantern. Contrary to their usual custom the Jolly Rovers did not join at the frolic. They gathered in Deacon Snow's cornfield and quietly waited till the noise in the village subsided. Then, feeling they could celebrate in their own way undisturbed they silently began what they termed a "raid on the righteous." The good deacons were sleeping the sleep of just. They were tithed of their first fruits just the same and every deacon's "tenth" found its way into a bag of one of the Jolly Rovers. When the seven had all they could carry, they stole across lots to Mrs. Tobias' humble dwelling. Depositing their burdens on the ground the boys immediately began a most unique fortification, which was strictly of a vegetable nature. The seven bags were opened and on the platform at the widow's back door they laid a goodly foundation of warty squashes and smooth, sweet pumpkins. They built silently and skillfully, inclining the rising pile toward the house like the leaning tower of Pisa. They lacked material to complete the work and again "the righteous" were visited. At last the back door was successfully hidden; still the mission was not ended. Deacon Avery's woods loomed up in the darkness three-quarters of a mile away, and thither hied the Jolly Rovers. With the aid of a dark lantern they gathered two great piles of limb wood, which from year to year was left to moulder and decay. This they now bound securely with stout ropes and with "a long pull, a strong pull and a pull altogether," it was finally landed in Mrs. Tobias' yard. Those boys worked like majors and before morning the widow's woodpile had taken on surprising proportions and as the Jolly Rovers surveyed the result of the raid a smile of satisfaction overspread their grimy faces.

Mrs. Tobias arose at her usual time. The children likewise. Johnny wrestled with buttons which refused to enter their respective holes as he helped his young brothers put on their clothes. The mother laid the fire and taking the wooden bucket started to the well for fresh water to fill the kettle. She shot back the bolt from its fastening, lifted the latch and was instantly surrounded by such an avalanche as was never known in the history of man; she could not escape—apples and potatoes raced under the stove and into the corners; onions, beets and turnips mingled in wildest confusion; great cabbages bursting with the resistance of their own solidity grinned at the wide-eyed frightened children. The widow saw a piece of paper pinned to a squash of enormous size and pulling herself free read it hastily, "A donation from the deacons." She wiped her streaming eyes and "thanked the Lord."

"Here's something, maw," cried Johnny, climbing over the rolling vegetables and pulling at a bag hanging from the outside latch. The woman took it with trembling fingers; it was heavy and came open with a jerk. There was the sound of jingling coins. Mrs. Tobias sat down amid the "deacons' donation" and poured the money into her lap. The children danced with glee. There was another paper and on this was scrawled in a boyish hand, "Hang onto the cow. Here's twenty dollars. From Seven Sinners."

When the worthy deacons arose that same morning, they were puzzled to find the following text pinned on their back doors: "He that giveth to the poor lendeth to the Lord." They were still more puzzled when the pastor read from the pulpit the following Sabbath the widow's acknowledgement and grateful thanks to the deacons of the church for their liberal donation. Their deed was so highly commended by the pastor and various members of the congregation that the deacons preserved a wise and dignified silence. In their abundance they had not even missed the generous tenth taken by the Jolly Rovers. As Deacon Goodnow walked casually by the widow's house he encountered Johnny Tobias and from him learned the nature of the donation. That afternoon the deacons met in secret conclave. Their duty had been shown them and they now agreed to perform it cheerfully. "For," said Deacon Avery, "the 'ways of the Lord are past finding out.'"—Mary Sievers.

Breathing Exercises.

The following exercise, if carefully and perseveringly practiced, will uplift and expand the collapsed body, will restore to normal activity the cramped and unused muscles of respiration, and will inculcate a habit of normal breathing at all times:

Exercise No. 1. Take a slow, full breath, at the same time raising the hands straight above the head. Clasp the hands together, and stretch upward toward the ceiling. Then, still holding the breath, walk slowly up and down the room.

Exercise No. 2. Inhale breath, at the same time raising the hands so that, when the lungs are full, the arms will be extended straight upward. Then, without holding, exhale the breath, allowing the arms to sink slowly.

Exercise No. 3. Place the hands at the waist. Sink the head upon the chest, and bend forward, at the same time inhaling a slow, full breath. Notice that the waist under the hands is expanded with inhaled air. Rise as you slowly exhale.

Exercise No. 4 Stand easily with the feet well apart. Now exhale the breath in a gentle sigh, and, at the same time, sink the body down to a crouching position, with the head bent forward and the finger tips lightly touching the floor. Then rise suddenly, stretching the body up to its full height, with the arms extended toward the ceiling. At the same time take a full breath. After a moment of firm stretching upward, exhale the breath easily, and sink back to the crouching position.

Exercise No. 5. Stand easily on both feet with the head and chest up, and the arms hanging at the sides. Inhale a full breath through the nose, as slowly as possible. Then exhale, also as slowly and gently as you can, to the sound of "sh" as in "hush."—Success.

When Time Laughed.

I was seventeen, and she
Blushed and bloomed at twenty-three;
When I hinted we might wed—
"You're too young for me," she said.

But I thirsted through the years,
Tortured by my hopes and fears;
And I longed to win her so
That it must have helped me grow.

For I hastened on so fast
My momentum bore me past!
And to-day, hy anguish rent,
See my sad predicament:

She's still twenty-three, while I've
Waxed sedate at thirty-five;
And I hear her now aver
I am much too old for her!

—Edwin L. Sabin.

Invalid Cooking.

Happy is the household in which there is no sickness, yet every family at times numbers among its members one invalid. It is sometimes a difficult matter to select and prepare a suitable menu for the sick and convalescent, as the dishes must be at once tempting, nourishing and easily digestible. Recently, while convalescing from a short illness, I was so nicely served by my daughter that it occurred to me that possibly I might offer some suggestions and recipes which might be helpful to some of my Tribune sisters.

A jar of beef extract should always be kept on hand in a cool place. A little of this added to boiling water and salted to taste makes a good and quickly prepared beef tea. The square crackers known as saltines are best to serve with this after being crisped in the oven. If the patient's stomach will permit, a little butter added to the beef tea gives a better flavor. The water for the beef tea may be heated over a lamp, thus making it easy to serve in the night. For variety, make it into a jelly by adding a tablespoonful of gelatine to a cup of broth, or into nice light soups by adding to the broth cooked rice or tomato.

For some patients mutton broth is preferred to beef tea. Put about four pounds of mutton in sufficient cold water to cover well, and simmer until the meat will fall from the bones. Strain and place the broth in a cool place over night. Next morning remove all fat from the top and place the jelly on ice. Use one tablespoonful of jelly to half cup of hot water and salt to taste.

A delicious, nourishing and digestible dish is egg poached as follows: Beat the white of one egg till light and stiff, salting slightly; put into a buttered tumbler, drop the yolk into a slight depression made in the top of the white, place the tumbler on a butter pad in a basin of hot water, cover with another basin and cook until the white rises in the tumbler and the yolk looks milky. It should be eaten an once.

A raw egg is an excellent food in cases of inflammation of the stomach or bowels. To one beaten egg add a tablespoonful each of sugar, cream or milk, and a little of any preferred seasoning.

A sour baked apple is often much relished. Remove the core from a large tart apple; wash, place in a small granite basin, fill the cavity with sugar, add a tiny pinch of salt, pour into the basin a little water and bake quickly until soft. Serve with or without cream.

Milk can be served in various ways. If it is served cold, be sure it is ice cold and fresh. Should you wish to serve it hot, do not scald unless so ordered by the physician.

Toast as commonly made is unfit for

invalids. To make perfect toast the bread should be light, spongy, fine grained, sweet and at least two days old. It should be cut in even slices, about one-fourth of an inch in thickness, and toasted very slowly over moderate heat until it is a delicate brown and dry and crisp all through. To serve dry, spread with soft butter and serve immediately. For soft toast dip quickly into boiling salt water, and spread with soft butter. For cream toast, have heating while the bread is toasting, a little cream, in which is a lump of butter and a little salt. Allow it to get just hot, and pour immediately over the toast. Thoroughly crisped and delicately browned toast makes a nice foundation for a poached or scrambled egg, creamed asparagus and various things.

A blanc mange made with arrow root is delicate and nourishing.

Lemonade or acid fruit juices stiffened with gelatine, two tablespoonfuls of gelatine to a coffee cup of juice makes a nice dessert.

Egg lemonade is a pleasant, nourishing drink. Beat the white of one egg, add one tablespoonful of sugar, the juice of one lemon, and sufficient water to fill a glass.

For lung trouble and inflammation of the bowels flaxseed tea is a valuable drink. Take a handful of seed, wash and place in a saucepan with a pint of cold water. Cover and place on the back of the range. Stir often and steep until thick. Strain and use warm or cold.

For tea use the best black tea which can be procured, and make with a tea ball if you have one. If not it can be successfully made by putting a teaspoonful of tea in an ordinary tea strainer, holding it in a teacup and slowly pouring boiling water from the tea-kettle through it. Serve clear, or with lemon and sugar, or sugar and cream.

Coffee should be made without boiling and be of the first quality.

When a patient is allowed to eat potatoes try roasting one in the ashes. Have a large bed of hardwood coals, cover some with ashes, lay the potatoes on, cover with ashes and heap the rest of the coals on top. Close the draughts and cook about one hour. Serve with rare boiled steak or chops, or with butter.—Ida E. Beach in Tribune Farmer.

Exercises for Health.

For almost every person under fifty, and for a great many people over fifty, exercise is the nearest approach to a panacea for bodily ills that has yet been devised. Causing the body to move and stretch and push and pull makes the blood circulate, the liver do its work, and the nerves pick up their dropped stitches. An excellent time to exercise is before breakfast. Neither man nor beast, as a rule, goes to sleep hungry During sleep there is little waste of energy. On waking there is no immediate demand for replenishment of lost tissues. Furthermore, the long sleep has left the nerves and the digestive apparatus dull and leadened. To sit down to a heavy breakfast within fifteen or twenty minutes after getting out of bed means that the stomach receives food which it does not need and will not readily digest.

A little shaking up before breakfast arouses the vitality, and consequently makes the appetite and digestion better. That means better work done during the day. If a man can get away from work in time to take additional exercise during the afternoon he will have a better appetite for the evening meal and more power to digest it. That will mean better sleep at night. Many a man has succeeded in the world without paying any attention to his body—Joseph Chamberlain, for instance. But such men would probably have succeeded more easily and certainly with more pleasure to themselves if they had taken care of their bodies. A strong mind is certainly stronger and more enduring in a healthy body than in a sickly one. The best way to keep the body healthy is to use it.—Chicago Tribune.

The dealer who sells lamp-chimneys to last, is either a shrewd or an honest man.

MACBETH.

How to take care of lamps, including the getting of right-shape chimneys, is in my Index; sent free.

MACBETH, Pittsburgh.

Hints to Housekeepers.

A mustard plaster made with the white of an egg will not blister.

Equal parts of tallow and turpentine mixed make an excellent polish to use on oiled floors, oilcloth, etc.

A sandwich dear to childhood is simply bread, butter and sugar, with a liberal sprinkling of powdered cinnamon. Try this for the lunch basket.

Grate breadcrumbs and brown them slightly. Allow one-half teaspoonful to an egg, and strew them in when making a plain omelet. Baker's stale bread makes the best crumb.

Veal, lamb, chicken or any of the white meat croquettes should be moistened with lemon juice after the meat has been minced. Paprika is to be sprinkled on the cracker crumbs in which the croquettes are rolled before frying. Doubly tried out beef drippings or unsweetened butter are the best frying mediums. Just before using, the frying should be rubbed with the freshly cut surface of an onion.

In making ketchup of any kind never use anything but a porcelain-lined kettle, or one of some make that does not impart a taste to the ketchup. It is wise to use new bottles, and also to sterilize them by immersing them in boiling water and letting them stand for five minutes before using them. It is not necessary to purchase bottles with patent stoppers. The cost of the simple bottles necessary is only a trifle if they are purchased in quantity.

For preventing attacks from flies and mosquitoes an excellent preparation is to dissolve an ounce of naphthaline (powdered) in a pint of kerosene (which may require several days), and add it to one gallon of fish-oil. Next add a gill of spirits of turpentine, and a gill of crude carbolic acid, placing the mixture in a jug for use when wanted, always shaking well before using. The mixture may be applied by spraying or with a sponge.

Here is the remedy of the Florists Weekly Reveiw for banishing rats and mice: Get some of the old-fashioned black sulphur matches, now generally called eight-day matches. Cut off the black end and put six or seven of these black tips in some bread that has been moistened in milk and roll the bread into marbles about the size of common playing marbles. Have six or seven tips in each marble. Rats seems crazy for this poison, and after eating one marble they will not live to see another.

Tutti-frutti salad can be as comprehensive as one pleases; in fact, the more variety that goes to make it up the better, and canned fruit can be substituted when the fresh are out of season. Slice pineapple, bananas, oranges, peaches, etc., and arrange in layers with cherries, halved plums, strawberries and raspberries. Sugar well and let them stand till the juice given out is a rich syrup. Drain this off and make a "syllabub" by beating meringue into it, then pour over fruit and freeze.

To get the full flavor of the peas, beans, etc., that go to make up a genuine vegetable soup, do not dissipate their strength by boiling in water and then draining off, but use simply what will barely cover them, adding from time to time to replace the waste by evaporation soup from the soup pot, which should be kept simmering conveniently near. A half hour before serving, strain out all bones and bits of meat from the latter, put vegetables in and stir in an "egg-drip" of beaten egg and flour, just before turning it out into the tureen.

As there are always people who are in despair over the fleas in their cats, it is worth while to know that flowers of sulphur rubbed into the fur will rid the cat of the pest. Emily Webb, writing to "Our Fourfooted Friends," recommends it. She says: "It is perfectly harmless, and if the cat licks it off it will not hurt her. Then comb the fur with a fine-toothed comb. Mix a little sulphur and butter (never use lard) and rub under the ears, under the legs and down the backbone. Mange is the result of poor and insufficient food and carelessness generally in the care of the cat. Little worms form under the skin, and their constant squirming and crawling almost set the cat crazy. Let the sulphur paste remain on the cat all day, then wash it off with warm water and a cloth. Continue this treatment until the cat is cured. Keep the skin and fur clean and there will be no danger of mange. Dirt brings a variety of diseases. The sulphur paste has been tried to kill fleas with perfect success and is entirely harmless. I have cured sore ears by washing with warm water and a soft rag."

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The Markets.

San Francisco Produce Report.

San Francisco, October 26, 1904.

CHICAGO WHEAT FUTURES.

Wheat futures in Chicago were as follows for the week named, price being for No. 2 Red per bushel:

	Dec.	May.
Wednesday	$1 13¾@1 16¼	$1 12⅝@1 14⅜
Thursday	1 16⅛@1 14¼	1 14⅜@1 12⅝
Friday	1 13⅞@1 15¾	1 12⅜@1 14⅜
Saturday	1 16½@1 15	1 15⅛@1 13⅝
Monday	1 15 @1 16⅜	1 14 @1 15⅛
Tuesday	1 16 @1 14⅝	1 14⅜@1 13⅜

CHICAGO CORN FUTURES.

Prices of futures on No. 2 corn per bushel in Chicago were as follows for the week:

	Dec.	May.
Wednesday	48¼@49½	45⅛@45⅞
Thursday	49⅞@48	46⅜@45⅜
Friday	49⅜@49	45⅛@45⅞
Saturday	49 @48¼	45⅞@45¾
Monday	48¼@48¾	45 @45¾
Tuesday	48½@49⅜	45½@46⅛

SAN FRANCISCO WHEAT FUTURES.

The range of values in San Francisco for No. 1 White wheat per cental was as follows:

	Dec., 1904.	May, 1905.
Thursday	$1 48 @1 47¼	$1 50¼@1 49⅜
Friday	1 46 @1 46⅞	1 48½@1 49
Saturday	1 47 @1 46⅝	1 49⅜@1 49
Monday	1 46¾@1 45¼	1 48¾@1 47⅞
Tuesday	1 43¾@1 44⅝	1 45¼@1 47
Wednesday	1 41⅝@1 41¼	1 46⅜@1 46

Wheat.

The local spot market for wheat has continued in much the same groove as for some weeks preceding, with business of light volume and mostly on local account. There has been lately more wheat arriving from Oregon and Washington than has been going outward from this port, and the same condition of affairs will likely continue during the balance of the season. Stocks of wheat in this State are not of sufficient volume to admit of noteworthy exports, and may prove inadequate for home needs, particularly if there is a marked increase in the acreage seeded this winter. Most of the ships now on the engaged list are chartered for mixed cargoes, and where wheat is taken it will be mainly for stiffening only. Ocean freight rates are without material change, but the market for grain charters is weak, not being quotable over 22s. on wheat cargoes to Cork for orders, usual option as to ports of discharge. In the speculative market for wheat there have been some breaks the past week, the powers in Chicago seeing fit to hammer prices down. The following from the Chicago Trade Bulletin shows how easily it is to figure on the bear side when parties wish to do so: "The movement of wheat to the primary markets of the United States from July 1st to October 1st was about 66,000,000 bushels, compared with 62,000,000 bushels for the corresponding time in 1903. The exports of flour and wheat during the same period were about 10,000,000 bushels, compared with 36,000,000 bushels for the same time last year—a decrease of 26,000,000 bushels, or 72 per cent. The official visible supply of wheat on October 1st was about 1,900,000 bushels less than one year previous. Estimating the wheat crop of the United States at 550,000,000 bushels, and allowing 72,000,000 bushels for supplies in all positions on July 1st, 1904, the aggregate supplies for twelve months would be approximately 622,000,000 bushels. Allowing 415,000,000 bushels for consumption and 75,000,000 bushels for seeding purposes, and 10,000,000 bushels for export to date—thus accounting for 500,000,000 bushels—there would remain for export during the next nine months and for supplies on hand July 1st, 1905, about 122,000,000 bushels. The exports from October 1st, 1903, to July 1st, 1904, were about 85,000,000 bushels, or an average of about 9,400,000 bushels per month." Other figures from equally reliable sources prove a decided shortage.

California Milling	$1 50 @1 60
Cal. No. 1 shipping, alongside	1 45 @1 47½
No. 1 Oregon Club	1 45 @1 47½

PRICES OF FUTURES.

During past week the range on options was:
December, 1904, delivery, $1.48@1 43¾.
May, 1905, delivery, $1.50¼@1.45¼.
Wednesday, at the forenoon session of Exchange, December, 1904, wheat sold at $1.44⅝@1.44¼; May, 1905, $1.46¾@1.46.

Ocean freights and prices for wheat, as compared with a year ago, are as follows:

	1903-04.	1904-05.
Liv. quotations	-s-d@-s-d	-s-d@-s-d
Freight rates	11¼@13⅛s	22@—s
Local market	$1 37½@1 40	$1 42½@1 47½

Flour.

Market is tolerably firm for flour from this year's wheat, particularly for brands which are well and favorably known. There is considerable flour offering, however, which has been on the market for some time and for which custom is being sought at material concessions from full current rates.

Superfine, lower grades	$3 25 @3 50
Superfine, good to choice	3 50 @3 75
Country grades, extras	4 25 @4 50
Choice and extra choice	4 50 @5 00
Fancy brands, jobbing	5 00 @5 25
Oregon, Bakers' extra	3 75 @4 25
Washington, Bakers' extra	3 75 @4 40

Barley.

Demand continues fairly active for desirable export grades of the ordinary variety of barley and at as good figures as have been lately current. There are no evidences of much doing in Chevalier, buyers and sellers being apart in their views of values. Bids from shippers are not much higher for Chevalier than for ordinary barley of corresponding grade. Good to choice feed descriptions are in moderate request on local account, and values are being quite well maintained at the quoted range. There is some damaged barley on the market and for this stock there is little call, even at seemingly low prices. In the speculative market little has been done the past week and fluctuations were not pronounced, although at a lower range.

Feed, No. 1 to choice	$1 11½@1 12½
Feed, fair to good	1 07½@1 10
Brewing, No. 1 to choice	1 12½@1 17½
Chevalier, No. 1 to choice	1 20 @1 25
Chevalier, common to fair	1 00 @1 10

Oats.

For good to choice feed oats the market is fully as firm as previously noted, but many of the oats which have been lately arriving from the North are of quite common quality, and for this stock the market is slow and devoid of firmness. Choice seed oats are not readily obtainable and are commanding stiff prices. High grade Blacks are not to be had at any figure.

White oats, fancy feed	$1 50 @1 55
White, good to choice	1 37½@1 45
White, poor to fair	1 27½@1 35
Milling	1 45 @1 50
Black oats	1 30 @1 65
Red, fair to choice	1 25 @1 50

Corn.

Market is fairly well stocked with Eastern, but there is not much California corn of any sort offering. Most of the Eastern is of rather ordinary quality, and for this description the market is not showing any special firmness. There is considerable corn going outward; a steamer sailing Saturday last took 6688 centals for Central America.

Large White, good to choice	$1 40 @1 47½
Large Yellow	1 40 @1 47½
Small Yellow	1 60 @1 65
Egyptian White	—— @——
Egyptian Brown	—— @——
Eastern, in bulk	1 32½@1 42½

Rye.

Not much in store here and no heavy quantities offering to arrive.

Good to choice	$1 40 @1 45

Buckwheat.

Nothing doing in this cereal, market being practically bare. Nominal values, based on buyers' views, are $1.90@2.25 for good to choice.

Beans.

Most of the wholesale trading in beans lately has been consummated in the interior, and in some instances at relatively higher figures than were warranted as regular quotations at this center. It is not uncommon for buyers who are anxious to secure supplies to pay more in the country than they will bid here. For sound beans and in every way desirable the market is firm. Wet and damaged are going at irregular prices and less than quotations.

Pea, fair to good, 100 lbs	$2 90 @3 15
Small White, good to choice	3 15 @3 40
Large White	2 40 @2 75
Pinks	2 75 @3 25
Bayos, good to choice	2 75 @3 00
Red Kidneys	4 50 @5 00
Reds	4 00 @4 50
Limas, good to choice	4 25 @4 40
Black-eye Beans	2 50 @2 75

Dried Peas.

There are moderate quantities arriving from Humboldt, both Green and Niles, but they are mostly damp. Strictly choice dry are scarce and not obtainable under $3 per cental.

Green Peas, California	2 25 @2 50
Garbanzos, Large	3 25 @3 50
Garbanzos, Small	3 00 @3 25
Niles	2 25 @——

Hops.

The local market gives no evidence of special change. Spot stocks are light and are almost wholly in the hands of dealers. The last steamer for Australia carried 45,328 lbs. hops from this port. Large quantities are going forward by rail to the Atlantic side, en route for Europe. An exchange says: "The hop crop of Germany is now pretty definitely placed at 360,000 German hundredweight, or 39,693,600 pounds, as compared with 452,000 hundredweight in 1903. This amount is a middling crop, but a little more than enough for the country's own wants. Indications from other parts of Europe are that Austria-Hungary will produce about 70,000 hundredweight, and Belgium and Holland will produce 60,000 hundredweight more hops than last year, and that the other hop-growing countries in Europe will hold their own in comparison with last year, except England, which is reported to grow 100,000 hundredweight, or 11,200,000 pounds, less this year. This will leave England with a considerable shortage of hops for its own consumption." Late New York advices state: "Markets in all sections have continued in very firm position. In New York State 36c. has been paid for choice, and 37c. by some of the Western brewers for selected lots. The selection is already becoming difficult in New York State on account of the large purchases for American brewers. Qualities have already been advanced and what were prime three weeks ago are choice grades to-day. On the local market considerable activity has been shown of late and some 1903 Pacific Coast hops have been purchased by an exporter at 32c. English and Continental advices continue firm."

California, good to choice, 1904 crop	28 @31

Wool.

There is a brisk demand for good to choice wools, and there are few being offered here, being mostly picked up in the interior by dealers and speculative operators. The market is fully as firm as at any previous date the current season. The steamer City of Peking, sailing Saturday last, carried 68,028 lbs. wool for New York.

SPRING.	
Northern, free	22 @—
Northern, defective	17 @20
Oregon, good to choice	20 @22
Nevada	15 @20
FALL.	
Northern	14 @18
San Joaquin and Southern, free	12 @15
San Joaquin and Southern, defective	8 @10
Southern lambs, as to quality	8 @14

Hay and Straw.

Demand for hay is mainly for the better grades, while offerings are heavier of damaged hay than of desirable stock. The market is firm for best qualities, especially of Wheat and Tame Oat, but for wet and poor hay there is little inquiry, even at low prices.

Wheat, good to choice	$14 00 @ 15 50
Wheat and Oat	11 00 @ 14 00
Tame Oat, fair to choice	8 00 @ 13 00
Wild Oat	8 00 @ 11 00
Barley	9 00 @ 12 00
Alfalfa	10 00 @ 12 00
Stock hay	5 00 @ 7 00
Compressed	13 50 @ 16 00
Straw, ₱ bale	50 @ 70

Millstuffs.

Market for Bran presents an easy tone, with prospects that any changes in prices in the near future will be to lower figures. Middlings are being rather steadily held, with stocks not very heavy. Quotable values for Rolled Barley and Milled Corn have continued practically as last noted.

Bran, ₱ ton	$19 00 @ 20 00
Middlings	24 00 @ 27 00
Shorts, Oregon	20 00 @ 21 00
Barley, Rolled	23 00 @ 24 00
Cornmeal	32 00 @ 32 50
Cracked Corn	32 50 @ 33 00
Oilcake Meal	31 50 @ 33 00

Seeds.

Utah Alfalfa Seed is coming forward and is being offered in small lots at 15½c. The California product is worth the same money. Market for Mustard Seed remains firm; the Trieste variety is scarce, and of Yellow there is not much offering. Flaxseed is arriving from Washington, representing principally deliveries on contracts.

Flax	$1 80 @ 2 35
Mustard, Yellow	3 50 @ 4 00
Mustard, Trieste	4 50 @ 5 00
	Per lb.
Alfalfa	15 @15½
Canary	7 @—
Rape	1¾@ 2½
Hemp	3½@—
Timothy	5 @ 5½

Honey.

Stocks of choice to select are not large and are being steadily held. For some White Extracted from Nevada of very superior quality, as high as 7c is being realized in the filling of small orders. Ordinary Extracted from the Hawaiian Islands has been placed recently in round lots at 3c on this market.

Extracted, White Liquid	6 @ 6½
Extracted, Light Amber	4½@ 5½
Extracted, Amber	3¾@ 4¼
Extracted, Dark Amber	3 @ 3½
White Comb, 1-frames	12½@13
Amber Comb	9 @11

Beeswax.

Values are being well maintained at the quoted range. There are no large quantities offering, either on the spot or to arrive.

Good to choice, light ₱ lb	29 @30
Dark	27 @28

Live Stock and Meats.

Good to choice Beef is in fair demand at fully as good figures as have been current for several weeks past, but common grades are dragging, with considerable of the latter arriving. Veal is in good supply and market for same not especially firm. Values for Mutton and Lamb remain quotably as last noted, both descriptions being in ample stock for present needs. Hogs are being shipped in rather freely, but are meeting with a good demand at prevailing values.

Allowing for the shrinkage of about 50%, which is exacted in buying cattle on the hoof, live cattle command as much or more per pound than dressed beef, the shrinkage exacted being the slaughterers' profit.

The following quotations for beef and mutton are based on prices realized by slaughterers from wholesale dealers:

Beef, 1st quality, dressed, net ₱ lb	6 @ 6½
Beef, 2nd quality	5 @ 5½
Beef, 3rd quality	3 @ 5
Mutton—ewes, 6½@7c; wethers	7 @ 7½
Hogs, hard grain, 140 to 200 lbs	4¾@—
Hogs, large, hard, over 200 pounds	4½@ 4½
Hogs, small, fat	4½@ 4¼
Veal, large, ₱ lb	6 @ 7
Veal, small, ₱ lb	7 @ 9
Lamb, spring, ₱ lb	8 @ 8½

Hides, Skins and Tallow.

Offerings of Hides in prime condition are meeting, as a rule, with prompt custom at full current rates. Condition of the Pelt market is unchanged, values ruling steady. A large shipment of Tallow was made per sailing vessel to Europe the past week.

Nothing but select hides, clean and trimmed will bring full figures. Culls of all kinds, either from grubs, cuts, hair slips, side brands or murrain, are not always readily placed at the lower figures.

	Sound.	Culls.
Heavy Steers, over 56 lbs	— @10	— @ 9½
Medium Steers, 48 to 56 lbs	— @ 9½	— @ 9
Light Steers, under 48 lbs	— @ 9	— @ 8½
Heavy Cow Hides, over 50 lbs	— @ 9½	— @ 8½
Light Cow Hides, under 50 lbs	— @ 9	— @ 8½
Stags	— @ 7	— @ 6
Wet Salted Kip	— @10	— @ 9
Wet Salted Veal	— @11	— @10
Wet Salted Calf	— @11½	— @10½
Dry Hides	16½@17	15½@16
Dry Kip and Veal, 11 to 16 lbs	13 @14	12 @13
Dry Calf, under 4 lbs	— @19	— @17
Pelts, long wool, ₱ skin	1 00@1 50	
Pelts, medium, ₱ skin	70@ 90	
Pelts, short wool, ₱ skin	40@ 60	
Pelts, shearling, ₱ skin	15@ 30	
Horse Hides, salted, large prime, each	2 75@——	
Horse Hides, salted, medium	2 50@——	
Horse Hides, salted, small	2 00@——	
Horse Hides, dry, large	1 75@——	
Horse Hides, dry, medium	1 50@——	
Horse Hides, dry, small	1 00@——	
Tallow, good quality	4 @4½	
Tallow, poorer grades	2½@3½	

Bags and Bagging.

Not much doing in this line at present. Quotations are based on asking prices, values remaining nominally as last noted.

Bean Bags	4¾@5
Fruit Sacks, cotton	6½@7½
Fruit Sacks, jute, as to quality	5¾@7
Grain Bags, Calcutta, 22x36, spot	5 @5¼
Grain Bags, San Quentin, ₱ 100	4 50 @——
Wool Sacks, 4-lb	32 @——
Wool Sacks, 3½ lb	30 @——

Poultry.

There were no very heavy arrivals of choice California, but considerable Eastern poultry was received. Prices continued at much the same range as preceding week, with market tolerably firm for desirable offerings, medium size to full grown young stock being most in request. Firmness of the market was especially pronounced on Young Turkeys and Young Pigeons in prime to choice condition.

Turkeys, Young, ₱ lb	$ 22 @ 24
Turkeys, live gobblers, ₱ lb	14 @ 15
Turkeys, live hens ₱ lb	15 @ 17
Hens, California, ₱ dozen	4 50 @ 5 00
Hens, large	5 50 @ 6 00
Roosters, old	4 00 @ 4 50
Roosters, young (full-grown)	5 50 @ 6 00
Fryers	4 50 @ 5 00
Broilers, large	3 50 @ 4 00
Broilers, small to medium	2 50 @ 3 50
Ducks, old, ₱ dozen	4 50 @ 5 00
Ducks, large young, ₱ dozen	5 00 @ 6 00
Geese, ₱ pair	1 50 @ 2 00
Goslings, ₱ pair	2 00 @ 2 25
Pigeons, old, ₱ dozen	1 25 @ ——
Pigeons, young	2 00 @ 2 25

Butter.

Market is quotably lower for the better grades of fresh and is decidedly slow and weak for the common qualities. Holders of cold storage butter are crowding stocks to sale, which is interfering with the advantageous disposal of fresh. A large packing firm in Sioux City, Iowa, has opened a branch here for the sale of Eastern butter.

Creamery, extras, ₱ lb	26 @27
Creamery, firsts	24 @—
Creamery, seconds	21 @22
Dairy, select	24 @—
Dairy, firsts	20 @22
Dairy, seconds	17 @18
Mixed Store	14 @—

Cheese.

While stocks of mild new domestic flats are not heavy, the demand is not brisk at the rather stiff prices lately established. Young Americas are in moderate supply and are going at much the same figures as are now ruling on flats of recent make.

California, fancy flat, new	11½@12½
California, good to choice	10 @11
California, fair to good	9½@10
California, "Young Americas"	10 @12½
Eastern	11 @13

Eggs.

Supplies of uniformly large, white and in every way strictly select fresh are light, and are meeting with a firm market. Fresh eggs running irregular as to size, color and quality, are not being especially sought after. Buyers who do not insist on the fanciest fresh are using mostly cold storage and Eastern eggs, these being in liberal stock.

California, select, large, white and fresh	40 @42
California, select, irregular color & size	33 @38
California, good to choice store	27½@32½
Eastern firsts	24 @27
Eastern seconds	20 @23

Vegetables.

Desirable qualities of most kinds were in limited receipt. Onion market de-

veloped more firmness, with offerings only moderate and demand fair at the improved figures. Choice Tomatoes were scarce. Green Corn was in reduced receipt and mostly of very common quality.

Beans, Lima, ₱ lb	4	@	5
Beans, String, ₱ lb	2½	@	4
Beans, Wax, ₱ lb	2½	@	4
Cabbage, choice garden, ₱ 100 lbs	75	@	1 00
Cucumbers, ₱ box	30	@	60
Egg Plant, ₱ box	40	@	65
Garlic, ₱ lb	4	@	4½
Mushrooms, ₱ lb	10	@	15
Okra, Green, ₱ box	50	@	75
Onions, Yellow Danver, ₱ ctl	1 35	@	1 60
Peppers, Green, ₱ box	30	@	60
Rhubarb, ₱ box	75	@	1 25
Summer Squash, ₱ box	40	@	65
Tomatoes, box	30	@	65

NOTE.—Large boxes are what are known to the trade as "pay boxes," which have to be returned or paid for. They are open top, with hand holes in the ends, and weigh when filled from 50@60 lbs gross. Small boxes are free boxes, about the same as the regular fruit box, weighing when full from 20 to 30 lbs. gross.

Potatoes.

There were free receipts of Sacramento River potatoes, and market for this stock lacked firmness, the demand heing slow. Salinas Burhanks were rather steadily held, heing in only moderate supply and in fair request on local account. Sweets were in heavy stock most of the week, and market inclined in favor of huyers.

Salinas Burbanks, ₱ cental	90	@	1 30
River Burhanks, ₱ cental	50	@	75
River Reds, ₱ cental	65	@	80
Sweet Potatoes, ₱ sack	50	@	1 00

Fresh Fruits.

Apples were in liheral receipt from Humboldt county and Oregon. These, in connection with fair supplies of Eastern, furnished ample stocks for current needs, and market presented an easier tone, especially for other than most select. Sales were mainly within range of $1.00@1.25 per box for good to choice, only strictly fancy selling above $1.25. Late Pears were in moderate stock, selling at much the same range of prices as last noted, with demand not very active. Plums were in light supply and not much sought after. Persimmons moved slowly, with asking prices much the same as previous week. Pomegranates were in fairly liheral supply, and only for the very choicest did the market show any special firmness. Grapes in prime condition sold to fair advantage, hut the demand was not very brisk and was mostly local. Cantaloupes and Watermelons are practically out; a few Nutmeg Melons are still coming forward. Berries were in light receipt and mainly of common quality, for which sort the market ruled weak.

Apples, fancy, ₱ 50-box	1 35	@	1 50
Apples, good to choice, 50-lb. bx	1 00	@	1 25
Apples, fair to good, ₱ box	65	@	1 00
Figs, ₱ box	75	@	1 25
Grapes, ₱ hox or crate	30	@	75
Grapes, large open boxes	75	@	1 50
Huckleberries, ₱ lb	7	@	9
Nutmeg Melons, ₱ box	30	@	60
Pears, Winter Nelis, ₱ box	75	@	1 50
Pears, Cooking, ₱ box	40	@	75
Persimmons, ₱ regular box	75	@	1 00
Plums, Coe's Late Red, ₱ box	40	@	75
Pomegranates, ₱ small box	50	@	75
Pomegranates, ₱ large box	75	@	1 25
Pomegranates, fancy, ₱ large box	1 50	@	1 75
Quinces, ₱ box	40	@	65
Raspberries, ₱ chest	3 00	@	6 00
Strawberries, Longworth, ₱ chest	8 00	@	10 00
Strawberries, large, ₱ chest	2 50	@	6 00
Watermelons, ₱ doz	1 00	@	2 00

Dried Fruits.

In the market for tree fruits in a dried state, growers have little to worry ahout at present, and wholesale handlers are walking as a rule on very safe, if not velvety ground. Stocks of most kinds in hoth first and second hands are now light and promise to he well cleaned up hefore another season opens. Only for Apples, Prunes and Figs is the market to-day devoid of strength, and for ahove kinds the situation is hy no means noteworthy for weakness. Apples are ruling fairly steady, and were it not for Eastern competition would he selling to good advantage. Fig market is rather weak for ordinary white, hut there are no excessive offerings of choice of either white or black. The market for Apricots, Peaches, Pears and Nectarines is decidedly firm, with spot stocks of the entire line of light volume. Tendency on Prunes is to firmer prices than have heen lately current, especially on the large and small sizes, of which there are not many now offering. The steamer Nicaria, sailing the past week, took over 1,000,000 pounds Prunes, including 976,868 pounds for Germany and 35,000 pounds for Holland. The last steamer for Australia carried 159,117 pounds dried fruit, exclusive of Raisins, and including 71,016 pounds of Prunes. The steamer Queen, for British Columhia, carried 35,125 pounds dried fruit, including 29,300 pounds Prunes.

EVAPORATED OR BLEACHED.

Apples, 50-lb boxes, rings, pressed, good to choice	5½	@	6
Apples, extra choice to fancy, 50-lb boxes	6	@	6½
Apricots, Moorpark	8	@	11½
Apricots, Royal, good to choice, ₱ lb	7¼	@	8½
Apricots, Royal, fancy	9	@	10
Figs, 10-lb box, 1-lb cartons	55	@	60
Nectarines, Red, ₱ lb	5½	@	6½
Nectarines, White and Yellow	6	@	7½
Peaches, unpeeled, good to choice	7¼	@	7¾
Peaches, unpeeled, fancy to extra fancy	8	@	9
Pears, standard, ₱ lb	6¾	@	7¼
Pears, choice to fancy	8	@	10½
Plums, Black, pitted	5½	@	6½
Plums, Red, pitted	6½	@	8
Plums, Yellow, pitted	6½	@	7½
Prunes, Silver, good to fancy	4	@	7½

Prunes, in bags, 4 sizes, 1¼@1½c; 40-50s, 3¾@4c; 50-60s, 2½@2¾c; 60-70s, 2@2¼c; 70-80s, 1½@1¾c; 80-90s, 1¼@1½c; 90-100s, ¾@1c; small, ½@¾c.

COMMON SUN-DRIED.

Apples, sliced	3½	@	4½
Apples, quartered	3½	@	4½
Figs, White, in bulk	2	@	2½
Figs, Black	2½	@	4

Raisins.

Owing to the heavy shortage in this year's Raisin pack, the market has a firm tone, hut Fresno advices state that the packers propose to take all the profits, having combined and fixed the price at 2c. to he paid the growers for new crop. Growers generally think 3c. would not he an unreasonable figure to realize, as 40 to 60 per cent. of the crop is so hadly damaged as to he unfit for Raisins, and a considerable portion of the damaged stock is wholly worthless. If justice is meted out, such combines to rob the producer will eventually act as a hoomerang. Included in the week's shipments were 218,629 lbs. Raisins per steamer Ventura for Australasia.

CROP OF 1904.

(Fresno delivery except otherwise specified,)

London Layers, 2-crown, 20-lb box	90	@	95
London Layers, 3-crown, 20-lb box	90	@	1 00
Fancy Clusters, 4 crown, 20-lb box	1 35	@	1 50
Dehesas, 20-lb box	1 85	@	2 00
Imperials, 20-lb box	2 25	@	2 50
2-Crown Standard loose Muscatel	3	@	3½c
3-Crown Standard	3½	@	3⅞c
4-Crown Standard	4	@	4½c
Seedless Thompsons	4½	@	4¾c
Seedless Sultanas	3¼	@	3¾c
Fancy, 16-oz. Seeded	5¼c		
Choice, 16-oz. Seeded	4¾c		
Fancy, 12-oz. Seeded	4⅛c		
Choice, 12-oz. Seeded	4 c		

Citrus Fruits.

Some Valencia Oranges arrived this week, and this will probahly prove the last receipts in this center of old crop. The new crop Navels on market are not sufficiently ripe to he sought after. There is a fair movement of Lemons at steady prices, with supplies ample for the requirements. Market for Limes shows the same easy tone previously noted.

Oranges, Valencias, ₱ box	3 00	@	4 00
Lemons, California, select, ₱ box	2 75	@	3 25
Lemons, California, good to choice	2 25	@	2 75
Lemons, California, fair to good	1 25	@	2 25
Grape Fruit, ₱ box	2 50	@	3 50
Limes, Mexican, ₱ box	4 00	@	4 50

Nuts.

Almond market is firm for good to choice; there are practically none in first hands and stocks held hy johhers are heing rapidly reduced. Walnuts are in active request; the yield is proving lighter than estimated and higher prices are heing asked.

Chestnuts, Cal., ₱ lb	10	@	12½
Nonpareil Almonds	13	@	16
I X L Almonds	12½	@	14
Ne Plus Ultra Almonds	12	@	13
Languedoc Almonds	9½	@	10½
Peanuts, fair to prime	5½	@	6½
Cal. Walnuts, No. 1 soft shell	12	@	12½
Cal. Walnuts, No. 2 soft shell	10	@	10½
Cal. Walnuts, No. 1 hard shell	11	@	11½
Cal. Walnuts, No. 2 hard shell	9	@	9½

Wine.

Prices for this year's dry wines have not yet heen estahlished. Indications are that the range of values will be more than ordinarily wide, owing to great difference in quality. Some buyers claim they will he ahle to make purchases at 13c. for early deliveries, hut it is not probahle that good wine will be ohtainahle at ahove figure. Last year's dry wines remain quotahle at 15@18c. per gallon. It is likely there will he more money in holding than in selling good to choice 1903 wine at these prices. For last year's sweet wines 30c. continues to he the asking figure at the wineries. The steamer City of Peking, sailing Saturday last, carried 173,633 gallons and 34 cases wine, including 168,714 gallons for New York. Receipts of wine at San Francisco last week were 243,100 gallons and for preceding week were 240,200 gallons.

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Produce Receipts.

Receipts and exports of leading cereals and other California products for the past week and for the season to date, as compared with the corresponding time the previous year, are as follows:

FOR THE WEEK.		Since July 1, 1904.	Same time last year.
Flour, ¼ sks	130,231	1,648,952	1,986,835
Wheat, ctls	45,861	998,299	746,392
Barley, ctls	184,303	1,311,360	2,763,391
Oats, ctls	42,188	433,278	475,878
Corn, ctls	11,056	42,089	47,138
Rye, ctls	823	19,630	22,868
Beans, sks	33,735	141,752	256,483
Potatoes, sks	23,897	391,452	400,432
Onions, sks	3,485	55,978	70,525
Hay, tons	2,971	76,363	81,965
Wool, bales	2,012	28,192	24,844
Hops, bales	2,038	22,148	16,408

EXPORTS BY SEA.

FOR THE WEEK.		Since July 1, 1904.	Same time last year.
Flour, ¼ sk	17,160	1,237,564	1,340,544
Wheat, ctls	213	140,704	302,187
Barley, ctls	147,315	658,952	2,246,851
Oats, ctls	535	6,805	9,637
Corn, ctls	5,699	15,945	5,961
Beans, sks	790	24,298	12,155
Hay, bales	1,198	50,415	61,624
Wool, lbs	.....	741,504	1,358,159
Hops, lbs	45,448	125,469	226,718
Honey, cases	22	616	1,849
Potatoes, pkgs	1,673	34,885	28,713

New Patents.

DEWEY, STRONG & CO.'s SCIENTIFIC PRESS PATENT AGENCY, 330 Market St., S F., has official reports of the following U. S. patents issued to Pacific coast inventors:

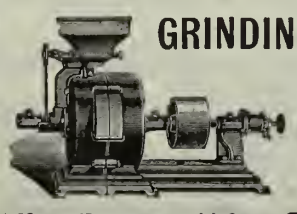
FOR WEEK ENDING OCTOBER 11, 1904.

772,018.—PRESERVING FRUITS—E. N. Alexandriau, Fresno, Cal.
771,855.—RETORT—G. W. Arper, Oakland, Cal.
772,324.—FORCEPS—N. D. Asdell, S. F.
772,270.—VEHICLE—H. Beckwith, Oakland, Cal.
771,856.—IRONING BOARD—W. O. Bowman, Oakland, Cal.
772,273.—MASK—A. Braverman, Fresno, Cal.
771,970.—OIL BURNER—L. E. Coleman, Santa Ana, Cal.
771,814.—HASP LOCK—J. Davy, Oakland, Cal.
772,091.—DRAIN TRAP—A. W. Edwards, Sacramento, Cal.
772,228.—VINE CUTTER—F. M. Ewell, Egypt, Wash.
772,230.—STRAINING MACHINE—F. J. Farucr, Seattle, Wash.
771,979.—CUSPIDOR CARRIER—C. H. Gunn, Stockton, Cal.
772,036.—ACCOUNT BOOK—C. L. Haggard, Seattle, Wash.
772,313.—ELECTRIC CONTROLLER—A. W. Harrison, Los Angeles, Cal.
772,097.—BEET TOPPER—G. L. Hayes, Roseburg, Or.
771,981.—OIL BURNER—T. W. Hill, Los Angeles, Cal.
772,098.—SCREEN—E. Hipolito, Los Angeles, Cal.
772,100.—PILE AND WHARF SUPPORT—H. C. Holmes, S. F.
772,043.—BORING APPARATUS—C. Kleinschmidt, Seattle, Wash.
772,157.—RATCHET LEVER—H. W. Kochler, Oswego, Or.
772,045.—OIL BURNER—H. Luckenbach, S. F.
772,047.—HOISTING MECHANISM—G. W. Mencfee, Berkeley, Cal.
772,109.—CENTER FIRE BALANCE ENGINE—R. A. Morton, San Jose, Cal.
772,173.—MUSIC LEAF TURNER—O'Neel & Edwards, Lafayette, Or.
771,997.—LATHE—A. Palm, Ventura, Cal.
771,999.—WATERPROOF FEATHERS—C. A. Potter, S. F.
772,254.—CLAMP—J. C. Reckweg, Los Angeles, Cal.
772,060.—DOOR OPENER—G. Rischmuller, S. F.
772,002.—ELECTRIC CLOCK—T. A. Schlueter, Oakland, Cal.
771,886.—GAME APPLIANCE—F. H. Smith, S. F.
771,948.—BUGGY TOP—G. H. Taylor, Goldendale, Wash.
771,887.—CRUSHING ROLLS—J. A. Thomas, Los Angeles, Cal.
771,949.—CRUSHING ROLLS—J. A. Thomas, Los Angeles, Cal.
772,072.—SNATCH BLOCK—A. Uren, Seattle, Wash.

BIG PRICE FOR IRRIGATED LAND.—A Ventura dispatch says: Leopolda Schiappa, one of the largest landowners in the county, has purchased of Mrs. C. H. Ramsey what is known as the Farmers' ditch, which covers a rich territory hetween Santa Paula and Saticoy, in this county. The price was $31,000. Mrs. Ramsey purchased the property a few years ago for $2500. In the transfer she reserves the right of 200 inches. The purchaser will at once proceed to cement the ditch to save the 1500 inches of water it carries in his 6 miles. The control of this ditch gives the owner one of the hest irrigating systems in the State. With his own ditch he now controls an extensive irrigating system on hoth sides of the Santa Clara river.

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Here are the commonest symptoms: Weakness or loss of weight; puffy ankles, hands or eye-lids; Kidney trouble after the third month; urine may show sediment; failing vision; drowsiness. Any one of these should make you suspicious.

The deaths due to kidney trouble (technically known to physicians as Brights Disease) have attained frightful proportions, now amounting to over 140,000 deaths annually. The last census showns that the deaths have nearly doubled since 1890.

The Denver Medical Times quotes Dr. Loomis, the famous Bellevue Hospital authority, as saying that he believes from hundreds of autopsies that nine-tenths of men and women over forty have Brights Disease in some form. It is our national scourge. People must realize that kidney trouble (to be more accurate—Brights disease) is a serious thing.

If you have any of the above symptoms, you owe it to your family to start at once on Fulton's Renal Compound for Brights Disease, the only cure in the known world. $1.00 per bottle.

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PRICES:

12	inches	long,	$ 9.00	per	1000
14	"	"	10.00	"	"
16	"	"	11.50	"	"
18	"	"	12.50	"	"
24	"	"	15.00	"	"
30	"	"	17.50	"	"

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World's Fair Awards.

CALIFORNIA MAKES NOTABLE RECORD IN AGRICULTURAL LINES.

California has made a record at the Louisiana Purchase Exposition. Never has a State, in competition against all climes and conditions, made a cleaner sweep. The variety of resources, as revealed in the exhibits here, has been the marvel of the millions that have attended the fair. The following is a collection of the awards made to Californians:

CALIFORNIA COMMISSION.

GRAND PRIZE—Canned fruits in tins and glasses. vegotables in process, wino exhibit, beneficial insects.

GOLD MEDAL—Honey.

SILVER MEDAL—Butter.

BRONZE MEDAL—Soils, grasses, seeds and ceroals.

SAN FRANCISCO.

GOLD MEDAL—J. K. Armsby Company, dried fruits; Castlo Bros., dried fruits; Central California Canneries Company, canned fruits; Griffin & Skelley Company, canned fruits; Long Syrup Refining Company, crystallized fruits and Maraschino cherrios; California Wine Association, wines; Chauche & Bon, wines; A. Finke's widow, wines; Gundlach-Bundschu Wine Company, wines; Italian-Swiss Colony, wines; Mount Diablo Vineyard Company, wines; Napa & Sonoma Wine Company, brandies; A. Repsold & Co., brandios: Wetmore - Bowon Company, clarets: P. C. Rossi, vermouth; Rosenblat Company, apricot brandy.

SILVER MEDAL—E. Aigeltinger, hay; E. Clemens Horst Company, hops; E. Martinoni, vermouth; E. G. Lyons & Rass Company, brandies; California Wine & Brandy Company, wines; French-American Wine Company, wines; Lachman & Jacobi, wines: C. Schilling & Co., wines; John Loeffler Preserve Company, condiments of pickles; Rosonberg Bros. & Co., dried fruits and nuts.

BRONZE MEDAL — Monterey Packing Company, soused mackerel; William Hoelschor & Co., wines; C. M. Mann & Co., winos; Schlessinger & Bender, wines; Cox Seed Company, vegetable sceds; Hugh H. Lamont, flax.

LOS ANGELES.

GRAND PRIZE — Los Angeles Olive Growers' Association, olive oil; Los Angeles County World's Fair Committeo, preserves, vegetables, etc.; Bishop & Co., collectivo exhibit; Cawston's Ostrich Farm, South Pasadona, ostrich feathors.

GOLD MEDAL — Los Alamitos Sugar Company (90), Los Alitos: Los Alamitos Sugar Company (84), Los Alitos, beet sugar; Corsica Citron Company, Los Angeles, citron; Georgo Williams, Los Angeles, sauces: H. Jevne, Los Angeles, wines; Sierra Madre Vintage Company, Los Angeles, wines: H. J. Wollacott, Los Angeles, wines; California Cream Lemon Company, Los Angeles, cream of lemon; Lemola Soap Company, Los Angeles, lemon soap; F. W. Braun & Co., Los Angeles, olive oil; James Hill & Sons, Los Angelos, olive oil; J. V. Mills, Los Angeles, peanuts.

SILVER MEDAL — R. C. Gillis, Santa Monica, beans; Coachella Valley Products Association, Coachella, cantaloupes: Los Alamitos Sugar Company, Los Alamitos, syrups, etc.; Emerson Bros., honey; Los Angeles County World's Fair Committee, honey; Los Angeles Brewing Company, malt and boer: Italian Vineyard Company, wines; Miss Bessie Marsh, South Pasadena, crystallized f. l.; Aminta W. McNaughton, South Pasadena, candied flowers: E. C. Ortega, chili; Southern California Wine Company, wines; California Fish Company, collective exhibit.

BRONZE MEDAL — Edward Germain Wine Company, wines; Old Mission Proserving Company, marmalades; Johnson Musser Seed Company, seods; Mrs. H. W. R. Strong, pampas grass.

SAN DIEGO COUNTY.

GOLD MEDAL—Bostonia Fruit Growers & Packers' Company, raisins: San Diego county, collective exhibit of dried fruits: Citrus Products Company, citric acid; Ackerman & Tuffley, olive oil; San Diego county, rye.

SILVER MEDAL—California Citrus Products Company, oil of lemon; C. M. Gifford, olive oil; Citrus Products Company, fruit juice and lemon extract; C. M. Gifford, ripe olives: Ackerman & Tuffley, ripe olives.

ORANGE COUNTY.

GOLD MEDAL — Thomas Nicholson, sweet potatoes; Orange County World's Fair Commission, vegetables; James Irvine, beans and onions; Golden West Celery & Produce Company, celery.

SILVER MEDAL—W. S. Hall, alfalfa seed; John Joplin, peppers; J. E. Taylor, corn; Edward Utt, peanuts.

SAN BERNARDINO COUNTY.

SILVER MEDAL—P. H. D. Kingsbury, marmalades.

BRONZE MEDAL—P. H. D. Kingsbury, lemon juice.

VENTURA COUNTY.

GOLD MEDAL — J. K. Armsby, seed beans; Ventura county, olive oil; Ojai Olive Oil, olive oil.

SANTA BARBARA COUNTY.

GOLD MEDAL — Elwood Cooper, olive oil; Santa Barbara County Commissioners, mustard scod.

SILVER MEDAL—Santa Barbara county, ripe pickled olives.

SAN JOAQUIN COUNTY.

GRAND PRIZE—Stockton Chamber of Commerce, Stockton, reclaiming lands, irrigation, etc.; Stockton Chamber of Commerce, Stockton, vegetables; Stockton Chamber of Commerco, Stockton, boans, seeds.

SILVER MEDAL—Cherokee Lane Olive Orchard, Lodi, olives; El Rubio Olive Grove, Acampo, olive oil; Stockton Chamber of Commerce, Stockton, photograph farm scenes; Buhach Produce & Manufacturing Company, Stockton, buhach; Bachmann & Brandt, Stockton, chicory; J. B. Cory, Acampo, dried apricots and peaches; Frank Voltalina, Stockton, maccaroni.

BRONZE MEDAL — B. F. Langford, Acampo, onions; Arthur Thornton, Acampo, potatoes; El Dorado Brewing Company, Stockton, beer.

KINGS COUNTY.

SILVER MEDAL—Jerome Blain, Laton, barloy: Andrew Larson, Laton, alfalfa; Nares & Saunders, Laton, vegetables; W. N. Harris, Laton, collaborator and viows: Mrs. M. A. Moradian, Laton, silk cocoons; Kings county, dried fruit.

BRONZE MEDAL—D. E. Brown, Laton, Indian corn; M. Rodenbaugh, Laton, Egyptian corn; W. R. and A. A. Smith, Laton, tomatoes; Sworder Bros., Laton, Egyptian corn.

SACRAMENTO VALLEY EXHIBIT.

GOLD MEDAL—Sacramento Valley Vegetablo Growers, vegetables; J. M. Howell, Helenville, wool; California Winery, Sacramento, wines; J. H. Glide, Sacramento, wool; John Heany, Courtland, homp straw; Lovdale Bros. Company, Sacramento, hops; Sacramento Valley Development Association, Sacramento, hops; Sacramento County Bean Growers' Association, beans; Birdsall Olive Oil, Auburn, olivo oil; Aldon Anderson, Suisun, prunes, peaches: Ehmann Olive Oil, Oroville, olive oil; John C. Gray, Oroville, olivo oil; Stico & Gardner, Rod Bluff, dried fruits.

SILVER MEDAL — Woodland Sultana Raisin Growers, dried fruits; Walter Bullard, Chico, hay; Ekman & Stow, Oroville, olive oil: John Heaney, Gridley, hemp; Ehmann Olive Oil, pickled olives; Fair Oaks Fruit Company, Fair Oaks, olive oil; Cooks Spring Mineral Water, mineral water; Mrs. Rose A. Bailey, fruit cake: John Campbell, Maxwell, wool; Durst Bros., Wheatland, hops; John Hoaney, Lincoln, currants; Tehama County Grain Growors, Red Bluff, dried fruits.

BRONZE MEDAL.—J. C. Mazal, Loomis, dates; J. C. Mazal, Loomis, wines; Colusa Packing Company, Colusa, prunes; Sacramento Valley Developmont Association, dried fruits; Mrs. Rose A. Bailey, Cosumne, preserves; Sacramento County Grain Growers, coreals; John S. Fouts, Colusa, mineral water; Castle Rock Mineral Springs Company, Castella, mineral water; Jamos M. Namoe, Thermalito, figs; Wintors Driod Fruit Company, Winters, dried fruits: E. Blowers & Son, Woodland, olive oil.

CONTRA COSTA COUNTY.

GRAND PRIZE—Contra Costa county, vegetables.

GOLD MEDAL—F. H. Busby, Concord, olive oil.

SILVER MEDAL—Martin & Correghino, Clayton, wines; Alhambra Mineral Water Company, mineral water.

BRONZE MEDAL—John Swett & Son, Martinoz, grape juice.

ALAMEDA COUNTY.

GOLD MEDAL—Hunt Bros. Company, Haywards, canned fruits; Alameda County Commissioners, vegetables; Pacific Vinegar & Pickle Works, pickles, etc.; Alameda Sugar Company, beet sugar; E. A. Wright, Oakland, vinegar; E. A. Wright, Oakland, jellies. jams and marmalades; Pleasanton Hop Company, hops; California Fruit Canners' Company, preserves; University of California, seeds; J. M. Doty, Livermore, olive oil; August Hagerman, barley; F. J. Lea & Co., olive oil.

SILVER MEDAL—California Fruit Canners' Company, fruits; E. A. Wright, Worcester sauce: California Salt Company, salt; Pure Water Company, waters, etc.; Dr. H. H. Cross, Livermore, wines.

SONOMA COUNTY.

GRAND PRIZE—Dresel & Co., Sonoma, wines.

GOLD MEDAL — Petaluma Incubator Company, incubators and brooders.

SILVER MEDAL—David Hitzel, Guerneville, tobacco.

NAPA COUNTY.

GRAND PRIZE—W. S. Keyes & Son, Howell Mountain, dry wines.

SILVER MEDAL—Brun & Chaix, Oakville, wines.

FRESNO COUNTY.

GOLD MEDAL — Co-operative Association of Fresno, raisins; Fresno Home Packing Company, Fresno, sceded raisins; Roeding Fig Packing Company, Fresno, figs; Barton Estate, Ltd., Fresno, wines; Minnewawa Home Packing Company, Fresno, olive oil; Roeding Olive Company, Fresno, olive oil.

SILVER MEDAL—Fresno Chamber of Commerce, alfalfa honey; J. C. McGibbon, Reedley, honey; Eagle Packing Company, Fresno, dried fruit; T. J. Hammond, Fresno, canned fruit; Minnewawa Home Packing Company, Fresno, ripe olives.

BRONZE MEDAL — F. J. Hammond, cereals.

SANTA CLARA COUNTY.

GRAND PRIZE—Paul Masson Champagne Company, San Jose, wines.

GOLD MEDAL—George Frank & Co., San Jose, prunes and pears; J. H. Flickinger & Co., San Jose, canned fruits; Santa Clara County Fruit Exchange, San Jose, prunos; Sorosis Fruit Company, Saratoga, prunes; L. H. Wakefield, Saratoga, prunes; Mrs. Sarah S. Cutler, San Jose, sceds; C. C. Morse Seed Company, San Jose, seeds; A. V. Stuart, San Jose, olive oil.

SILVER MEDAL — El Quito Olive & Vine Farm, San Jose, wines; El Quito Olive & Vine Farm, San Joso, olive oil; Pacific Congress Springs, San Jose, mineral water; Figprune Cereal Co., Inc., San Jose, figprune beverage; Campbell Fruit Growers' Union, Campbell, dried fruits.

BRONZE MEDAL—Mihalovitch-Fletcher Company, Los Gatos, fruits, etc.; Golden West Soda Works, mineral water.

MONTEREY COUNTY.

SILVER MEDAL—Monterey Chamber of Commerce, Salinas, potatoes.

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SANTA TERESA POULTRY FARM, Eden Vale, Santa Clara Co., Cal. White and Brown Leghorns, White Wyandottes, Barred Plymouth Rocks, Black Minorcas, White Cochin Bantams.

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THE SAN GABRIEL VALLEY HERD OF POLAND-CHINA HOGS won at the Cal. State Fair (1904) 23 prizes, 2 gold medals, 2 silver medals. Have young stock of both sexes for sale and some sows that are bred. Address W. R. McCaslin & Son, Cosumnes, Sacramento Co., Cal.

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Eggs $3 and $5 per set; $15 per 100. Stock for sale.

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At reasonable prices. For further particulars inquire of
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A Brick Water Tank in California.

Mr. S. H. Reno, whose location in this State we do not at the moment remember, writes to the Orange Judd Farmer an interesting account of building a water tank with brick for a home supply. He says:

My idea in building a water tank of brick was that it would be more economical than if made of any other material, and that the water would be free from the taint of wood. I also believed that the water would remain cooler in a tank of this character. I built a brick tank and find that all my anticipations are fully realized.

The framework is the same as for any ordinary wooden tank. The corner posts are 6x6 inches, well braced. It stands on cement piers instead of a brick foundation, as is usually the case.

I constructed piers by digging holes 2 feet deep and 20 inches square. At the bottom of each hole I laid concrete, composed of about five parts of gravel, three parts clean sand and one part cement. Next I put down two redwood plank, thoroughly seasoned and coated with coal tar; each was 16x16 and 3 inches thick, and fastened together securely. To these I nailed a redwood post 8x8 inches square and 20 inches high. All this was carefully bedded in concrete, composed of one part cement and seven parts sand. These 8x8 pillars were very firm, and upon them I set the four corner posts of the framework. I then built the frame as for an ordinary wooden tank.

On the joists I laid a double floor of 2-inch boards carefully tarred. On this floor I drew a circle 8½ feet in diameter and laid the brick to it flatwise, using mortar. I bnilt up the wall of the tank 4½ feet high in this manner, being careful to break joints and keep the wall plumb.

I then laid a single course of brick, using broken pieces principally, and bedded them in mortar. After the mortar had set, the bricks were ready for covering. I made a cement composed of seven parts clean sand and one part cement and coated the wall on the inside and outside, giving a smooth surface. I then applied a coating to the bottom of the tank, making this about ¼ inch thick, so that no wood would be exposed. After allowing the brick work to settle, I went over the walls and floor on the inside with a coating of cement ⅛ inch thick, composed of one part cement and five parts sand. After allowing the cement to become seasoned, I filled the tank with water. In several hours it began to leak by the water passing through the brick. To prevent this, I made a solution of water and cement about the consistency of strong whitewash and applied this to the inside of the tank with a whitewash brush.

World's Grain Crop and Consumption.

The Hungarian Minister of Agriculture estimates that the world's production of grain this year (1904) will be as follows: Wheat, 84,400,000 metric tons (of 2204 pounds each); rye, 39,500,000 metric tons; barley, 29,100,000 metric tons; oats, 48,800,000 metric tons; maize, 80,600,000 metric tons. This year's European grain crop is expected to be 14⅕% less than that of 1903. The shortage in the world's crop this year will amount to 5%.

The amount required for consumption in the current year is estimated to be: Wheat, 86,438,000 metric tons; rye, 41,427,000 metric tons; barley, 30,880,000 metric tons; oats, 51,320,000 metric tons; and maize, 82,880,000 metric tons.

The discrepancy between this year's production and consumption will be made up from the "visible supply," which now amounts to 14,400,000 tons of grain.

All over Europe there exists a serious scarcity of feed stuffs for animals. —George H. Murphy, consul-general, Frankfort, Germany.

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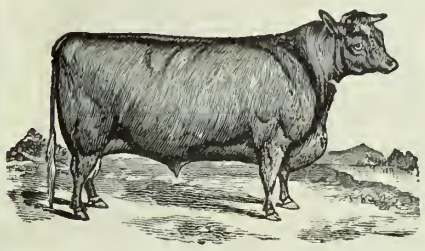
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FRUIT MARKETING.

Routing of Cars Belongs to Shippers.

Judge Wellborn, in the United States Circuit Court, in Los Angeles has rendered his decision in the fruit routing cases, denying the application for a stay of execution asked for by the railroads upon the former decision of the court, which decision denied the railroads the right to arbitrarily route shipments of fruit at the initial shipping point.

Attorneys for the railroads gave notice of appeal from Judge Wellborn's latest decision both to the Circuit Court of Appeals and the United States Supreme Court.

Judge Wellborn announced that he had been unable to file a written opinion, but would rule on the motion briefly giving his reasons for the benefit of the attorneys.

In his opinion the doctrine of comparative hardships should be applied to the decision of the pending case, and that to justify the suspension of the decree it must be shown, first, that irremediable damage will result to the defendants by its enforcement, and second, that no such loss will result to the complainant, and by this is meant not the Interstate Commerce Commission, but the general public, or more especially the citrus fruit shippers.

It may be conceded that the defendants will sustain damages by the enforcement of the decree, for which there is no adequate recompense, but the nature and amount of which is ascertainable.

As against this phase of the case, said the Court, the proposition arises, will the complainant sustain damages by reason of the suspension of the decree? In what condition will the suspension of the decree leave the shippers? The decree restores to them the routing privilege; the suspension will take it from them and thereby, as found in his opinion, utterly destroys competition both as to service and rates. As to the value of this privilege it is only necessary to refer to the testimony of Mr. Bissell and others, and that it is of great value is evidenced by the efforts that have been made to retain it, as shown by this litigation, and the statements that have been made that the railroads expect to transport 25,000 or 30,000 cars of citrus fruits this year.

Judge Wellborn then paid his respects to the question of rebates, which, he said, was a violation of the Interstate Act so flagrant that it was difficult to find language sufficiently strong and blistering to characterize it, and intimated that while the matter had not been treated directly in the case at bar, he was convinced the joint tariff was a violation of that Act, and for that reason the court could not entertain favorably the motion if the obvious intention was to violate some other law than the Interstate Act.

"It follows," concluded Judge Wellborn, "from the views expressed, that the motion for a stay of the decree is denied. The temporary stay is terminated by the opinion."

Mr. Milliken at once filed notices of appeal to the Circuit Court of Appeals of the Ninth District and also to the Supreme Court of the United States, and asks that the court, in fixing the bond for costs, also fix the amount to cover damages, so that it could act as a supersedas. This Judge Wellborn declined to do. "I will not approve a bond that would have the effect of nullifying my action," said the Judge.

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Five registered Berkshire boars, progeny of Rio Benito Prince, No. 58279, all immune from cholera. Rio Benito Prince has been the champion at the California State Fair for the last three years, this year weighing 970 lbs.

Twenty grade sows bred to Rio Benito Prince.

Fifty unregistered thoroughbred Durham heifers, two years old, bred to a splendid registered Durham bull.

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Rooms 720-721 Mills Bldg., San Francisco.

THE POULTRY YARD.

A Remarkable Record.

The experience of J. F. Hiner, who owns a 30-acre ranch near Bellevue station, says the Santa Rosa Republican, furnishes a valuable object lesson in what may be accomplished in the way of starting a chicken ranch on small capital, if proper energy and care are combined with the limited capital referred to.

Mr. Hiner conceived the idea of establishing himself in the chicken business a little more than a year ago. His first move was to procure an incubator. He then proceeded to purchase about 500 eggs for the first hatching and they were placed in the incubator January 6, 1904. He afterwards put in two more hatchings, and from the three took out a little over 1400 chicks.

Remarkable as it may seem, Mr. Hiner lost only seven of the entire number from the time they were hatched until they were large enough to sell, and not one of the seven died from any disease, but the loss, small as it was, was in every case attributable to accident.

May 6—just 4½ months from the time the eggs were placed in the incubator—several of the pullets from the hatch commenced laying, and he is now getting more than 100 eggs daily from these pullets, though they are less than nine months old. He has now one of the finest small stocks of White Leghorns that can be found in that section. This result has been obtained by unremitting care and energy in providing for them. His houses, yards, etc., have all been constructed with an idea of cleanliness, which is necessary to the health of the poultry. It will be seen that, outside of the cost of his place, Mr. Hiner's entire investment in houses and feed and everything used up to the time he began to receive an income from his chickens would exceed $500 or $600.

PATENTS

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330 Market St., San Francisco, Cal.
AND
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Stock Feed Abundant. — Visalia Times, Oct. 20: Andrew F. Thompson came down from Pleasant valley, in the hills east of Porterville, Monday. He states that abundant rains have fallen in Pleasant valley and that there is now excellent feed for stock. He thinks the present season up to date is the best he has ever seen here during the past thirty-five years.

Veterinary Advice FREE



Dr. S. A. Tuttle, a veterinary surgeon of long experience has written a book entitled "Veterinary Experience" on the diseases of horses, giving symptoms and treatment in plain terms. It is fully illustrated with diagrams showing the skeleton and circulatory and digestive systems with references that make them plain. Tells how to buy a horse and know whether it is sound or not. Every horse owner should have one. It is sent to any one.

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is the only guaranteed cure for **Colic, Curb,** recent **Shoe Boils** and **Callous.** It locates lameness, relieves and cures **Spavins, Ring Bone, Cockle Joints, Grease Heel, Scratches, Catarrh,** etc. Send today and get the book free and information about Dr. Tuttle's specifics.

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GOOD ROADS.

The Oiled Roads of California.

The State Department of Highways at the Capitol has just finished the compilation of a comprehensive report on oiled roads and oiled streets of California, which will soon be issued in pamphlet form with appropriate illustrations. The method of constructing and maintaining oiled highways in the various counties, under the differing conditions of soil and climate, have been gone into in great detail, the information presented cannot but prove of great value and interest to road-makers everywhere.

Mileage is Doubled.—The official figures show that there are 2197½ miles of oiled country roads and 550½ miles of oiled streets in California, the mileage having been more than doubled within the last twelve months, so popular has this kind of thoroughfare become. In addition, there are 1098 miles of oiled railway roadbed.

Summary.—In summing up his conclusions on the subject, State Highway Commissioner Ellery says:

"It is the purpose of the bulletin to present all the available data relative to oiled roads in California, and also to show the results obtained by the application of crude oil to the various soils and roadbeds within the State. The experiments of forty counties, from Tehama in the north to San Diego in the south, a distance of 600 miles, cover the subject so thoroughly that certain deductions may be drawn which will give a basis of work to those desiring to enter upon or to continue this important improvement to the highways of the State.

How Oiling Began.—"In the beginning oil was used as a substitute for water to lay the dust of roads more cheaply. Its efficiency for this purpose was quickly recognized, and through the hardened and lasting surface obtained roadmakers were led to its use in making permanent road surfacing. It is along this latter line that such remarkable success has been attained.

Development of the Work.—"Undoubtedly the work of the future will be the development of oil surfacing to the point where an artificially bitumen-covered roadbed will be had. In such development what is most needed is strict adherence to certain good road principles and the close attention and application of the roadmakers to see that the sub-grade or foundation receives the benefit of such principles.

Preparation of Foundation.—"Careful work should be had in the preparation of a road that is to be oiled. If an earth foundation is to be dealt with, it should be worked until a uniform density is obtained. In the case of macadam or graveled roads, they should be smooth and free from weak and worn out spots. No one would think of laying an asphalt pavement without first obtaining a firm and uniform foundation.

Equal Distribution.—"In the application of the oil to any surface no pains should be spared to get an equal distribution and a liberal sanding to hold the oil in place on the crowned surface. Again, the sand not only retains the oil in position, but is incorporated with and thus gives the real body to the contained asphaltum. The bearing power of the surface is greatly enhanced by the proper saturation of sand with the oil

Grading and Drainage.—"The effort in securing a good foundation, properly graded and drained, and the careful application of oil and sand, will be amply repaid in a good road."

The counties which have no oiled thoroughfares at this date are Alpine, Del Norte, El Dorado, Humboldt, Inyo, Lake, Lassen, Mendocino, Modoc, Mono, Nevada, Placer, Plumas, Shasta, Sierra, Siskiyou, Trinity. The mountainous nature of these counties and the high rates of freight preclude them from the use of oil on their roads to advantage.

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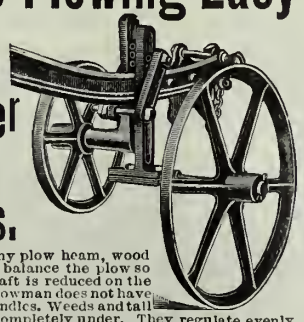
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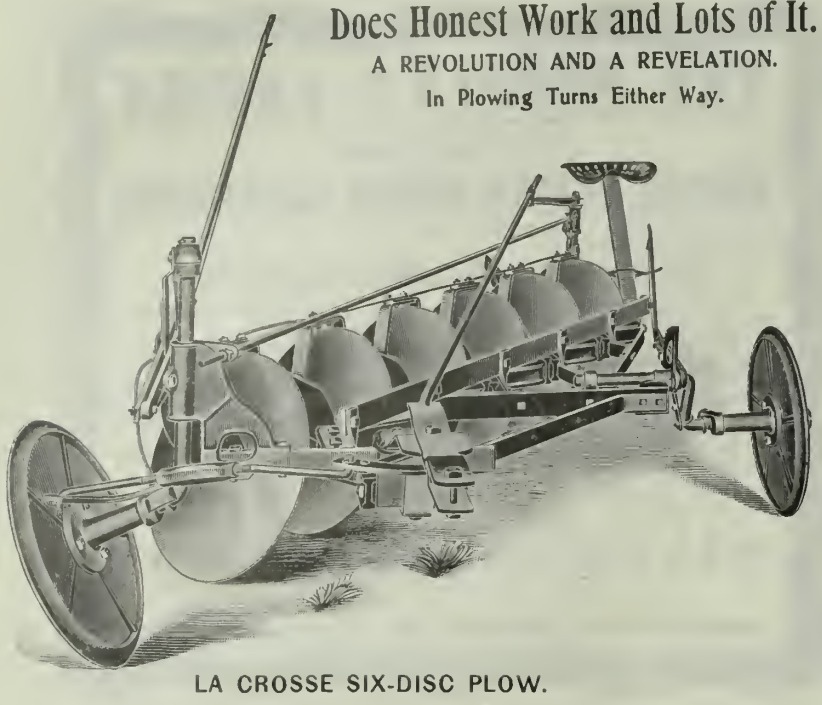
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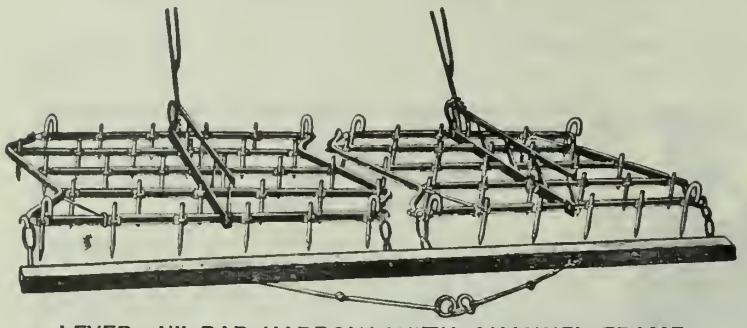
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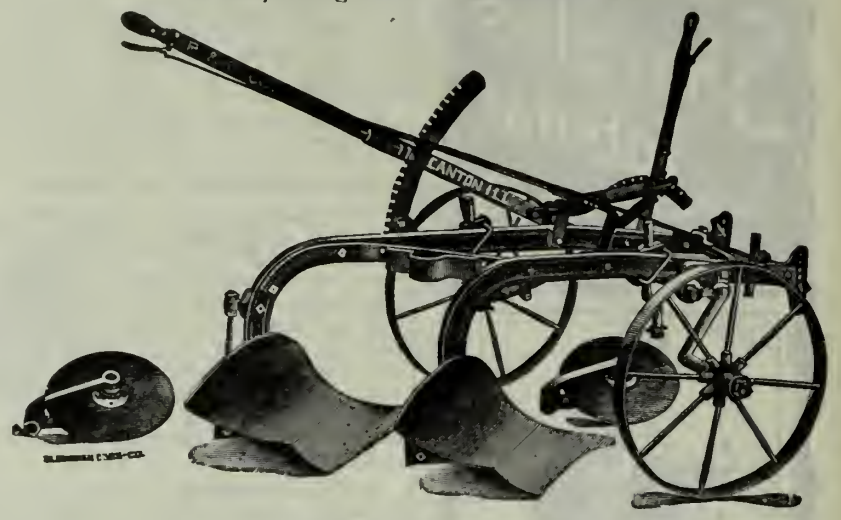


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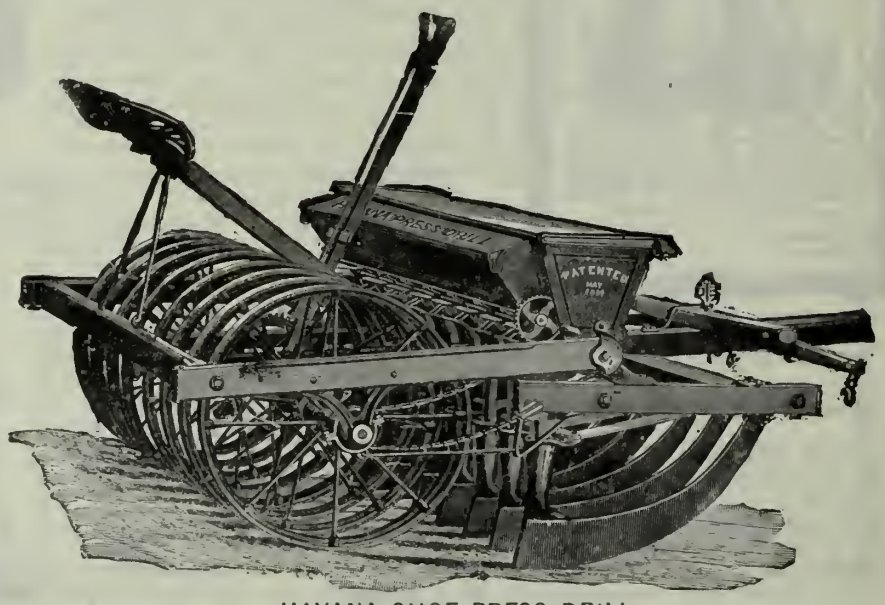
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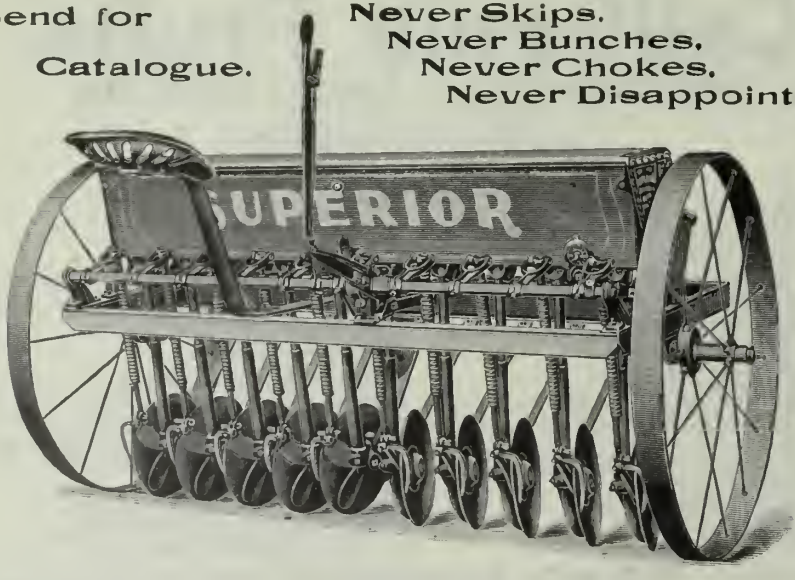
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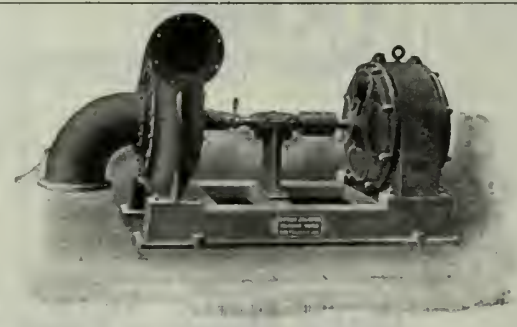


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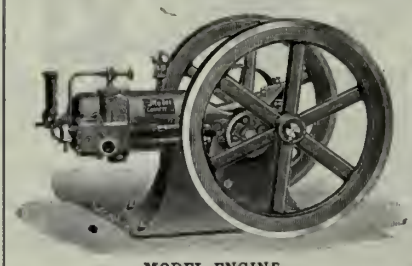
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Vol. LXVIII. No. 19. SAN FRANCISCO, SATURDAY, NOVEMBER 5, 1904. THIRTY-FOURTH YEAR. Office, 330 Market St.

Oregon's Butter Queen at the World's Fair.

The imperial Loretta D., 141708, stands at the head of the Jersey herd in the dairy demonstration at the St. Louis Exposition. It was a hard fought contest, a contest between feeders and the cows of the breeds. It was a splendid finish, every cow in the Jersey herd in perfect condition.

The figures for economical production of butter fat are not yet completed, but the work of computation is so far along that the Jersey breed stands out pre-eminently winner over the Holsteins, Shorthorns and Brown Swiss. In this contest there were twenty-five Jerseys, fifteen Holsteins, twenty-five Shorthorns and five Brown Swiss. In the Jersey herd, Oregon is extremely fortunate in having five representatives, four of the five owned by the Ladd estate of Portland finishing among the first ten cows of that breed in the following order: Loretta D., first; Dorinda Darling, fourth; Prize May's Duchess 2d, fifth; Oonan 23d, ninth. The full list of Jerseys competing will be found on another page.

The Oregon cows will be brought home to the Crystal Spring farm, Southeast Portland, and with them will come Montana's butter queen, Diploma's Brown Bessie, who finished tenth in this battle. She would have stood higher but for an accident, resulting in carrying her bag in a sling for nearly three weeks. She comes to try her mettle with the Ladd cows and others at the Lewis and Clark Exposition dairy test to be held in Portland in 1905.

The queen of the Jerseys at St. Louis is Loretta D. She is a very handsome cow, of exceedingly strong constitution, weighing 998 pounds. She has surpassed in the production of butter fat every one of the seventy cows in this St. Louis contest except the Holstein, Shadybrook Gerben, and she is only, in estimated butter, 5 ounces behind this phenomenal Holstein. Last year in Loretta's official work at home, beginning in March, for ten months she tested 5.05% 5.15%, 5.28%, 4.88% 5.43%, 5.32%, 6.42%, 6.49%, 5.89% and 7.11%, and made 518.9 pounds of butter fat without any pushing whatever. She freshened April 6, 1904. Awaiting the beginning of the delayed test, she milked from April 10 to June 15, 1904, inclusive—67 days—3417.4 pounds, a daily average of 51 pounds—her highest milking being 61.9 pounds on June 8th. From the beginning of the test, June 16, to Sept. 1, 1904, inclusive, her official record—78 days—is: Milk, 3883 pounds, daily average 49.78 pounds; fat, 178.09 pounds, daily average 2.28 pounds. For the entire 120 days, the duration of the test, she gave 5802.7 pounds of milk—a daily average of 48.35 pounds, and producing 280.16 pounds of butter fat, a daily average of 2.33 pounds—which, to the farmer's wife, means a daily average of $2\frac{3}{4}$ pounds of churned butter for the 120 days. At Chicago World's Fair test, 1893, Ida Marigold, the champion cheese cow, gave in the first 15 days of the test 673.6 pounds of milk, a daily average of 44.9 pounds—her largest yield being 46.7 pounds. Loretta at St. Louis, in the same number of days and at the beginning of the test, gave 749.8 pounds, daily average 49.98 pounds—her largest daily yield being 55.6 pounds, and on all but 2 days she surpassed Ida's largest yield. In the 90-day test at Chicago the record of the three champions was:

	Pounds Milk.	Daily Average.	Pounds Butter Fat.	Daily Average.
Ida Marigold	3,448.3	38.31	164.28	1.825
Merry Maiden	3,041.2	33.79	164.84	1.831
Brown Bessie	3,634.0	40.37	178.12	1.980

For the same time at St. Louis the record is:

Loretta D.	4,462.0	49.57	207.31	2.300

On 92 days Loretta has produced over 2.5 pounds of butter fat in twenty-four hours—her largest production being on August 13, 3.13 pounds, equivalent to 3.71 pounds of butter. On 16 days she made over 3 pounds of butter a day. Her best 7 days' yield—158 days in milk—was for the week ending September 10th, 20.61 pounds, exceeding the wonderful record of the great Brown Bessie at Chicago. We are glad to present a good portrait of this pride of the Pacific coast.



World's Fair Butter Queen—Loretta D.

A Bracket Flume.

We have given an account of the great milky way of the Pacific coast; a few words about a unique waterway by way of contrast. The picture is from the Sunset Magazine and shows one of the most noted flume constructions in the world. The water had been conveyed in a ditch for several miles, and, turning around the side of a mountain, the line was run several hundred feet up canyon, where it came up to a perpendicular cliff of volcanic rock, and a bracket flume was built. To construct this, men were lowered in slings over 200 feet from the top of the cliff to the flume level (118 feet above the foot of the cliff), and along this level holes were drilled into the volcanic rock. Into these holes the ends of brackets were inserted. The flume is 4 feet wide, 3 feet deep, and has a carrying capacity of 2000 cubic feet per minute.



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SAN FRANCISCO, NOVEMBER 5, 1904.

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The Week.

Brilliant autumn days have alternated with days darkened with showers, and November enters with promise to do her best as a delightful month in California. Verdure, except at the extreme south, where the moisture is still scant, is unusually forward this year, and the valleys and foothills look like lawns and parks. Splendid conditions prevail for outdoor work and teams are busy everywhere. There will be a long season to sow and plant and a long season to grow, and that always means a year of maximum acreage and maximum output, if the later rains are adequate to finish what will be well begun this year, and that is to be expected from present behavior. It will be a good year for Thanksgiving—proclamation for which has just been issued by the President, setting aside Thursday, November 24th, "to be observed as a day of festival and thanksgiving by all the people of the United States at home and abroad." Election will be over by that time, the country will be safe again, and taxes generally paid so that people can weave the general outlook for prosperity into the fabric of the promise for California and get inspiration from it all for an old-fashioned Thanksgiving celebration in all the rapidly multiplying homes in the State.

Some of our friends in Placer county give notice to the State that they are not in the Thanksgiving line this year. We publish on another page an outline of their recent proceeding because we have respect for them and their opinions, but we can just as frankly express our own opinion that the course they are taking is the very best way in the world to realize their darkest apprehensions. California needs population, development and varied industries. All these things are coming now with a volume and speed which have not been equaled for two decades, and our friends seem to be persuaded that it is for their interest to try to stop it. They seem to think that the people now coming to California are coming to grow fruit, but they are mistaken, for there never was a time, according to our correspondence with hundreds of newcomers, when new settlers sought California with so many different agricultural purposes as the present throng declares. We have had thirty years' experience in this line of observation, and believe we know something about it. Our Placer county friends would check this if they can, and they would do it because they are informed that such an effort would hurt somebody and help them in some other way. No one ever did chase the evil one around a stump in that way without catching more sulphur than they looked for. The acknowledged leader in this Quixotic quest is a man of whom the fruit industry has always deserved better than it got—a man who is always doing well with fruit, as he deserves, and always talking ill of it, which it does not deserve from him. The man of common intelligence, knowing the skill and success of this energetic grower and shipper of fruits, will simply pay as much attention to his exhortation as the man in the story did to the exhortation of the preacher who was checked up about discord between his practice and his sermon, and replied: "You must do as I say, not as I do." There is inconsistency in the whole matter, and those who are deceived thereby are not wise.

Now does it not appear that one of the very best ways to help the fruit industry is to multiply people in California and increase the local consumption of fruits and fruit products? Our own people should certainly understand by this time that it is not possible to grow fruits successfully on all California lands, and those who have the best fruit lands will see them advance. There are a score of other agricultural branches adapted to certain lands, and the multitude is coming to develop them. The declarations of Mr. C. H. Markham, on another page of this issue, are vastly more frank and honest than the outcry from Placer county. One is strong and sensible development doctrine, the other is "knocking" of the most ungrateful kind—it is chopping at the timbers of the bridge which has brought us over to the land of higher and more symmetrical development. The fruit industries of California are to endure and to expand to an extent which no one can now clearly see, and the very movement of population to this coast, which our ill-advised friends are vainly trying to hamper, lies at the very foundation of such endurance and expansion.

Since our last issue wheat sagged in Chicago, recovered again, but closes a little below last week's figures. Here speculative trade has sympathized with this course, but spot wheat is practically unchanged, for though shippers have bid less, millers have paid as high as before. One cargo of wheat and a part of another have gone out and the same figures are true of barley, though the barley fraction of the split cargo was larger than the wheat fraction. Export barley is firm and speculative barley firm and higher. There have been heavy flour shipments to China: 52,000 barrels by two steamers. Bears are unchanged, not quite so buoyant, but firmly held, for many damp beans are arriving. Bran is easy and middlings steady. There is little change in meat prices, beef and hogs being in good demand. Butter is finding all kinds of prices, fresh accumulating while the trade is running on stored. Fine new cheese is still in light supply, but cheese, too, is coming out from storage. Eggs of fancy grade are scarce; other grades abundant. Large young fowls and good turkeys are in good value and promising. Potatoes are weak; too many common spuds in sight. Onions are firm. The apple supply is large and dealers are bringing in many carloads from Colorado and Oregon, which they hold up to realize on their ventures—fancy apples selling high. Unripe Navels are still in, but sell below Valencias of the old crop. Lemons are firmer and in light stock. Dried fruits are firm, though apples are easier. Small prunes are in demand and large mostly disposed of, but medium sizes are plenty; 30,000 pounds of prunes have gone to Belgium. Packers who have the old crop of raisins are talking them up and the new crop down until they unload. Good almonds are scarce and receivers are complaining about walnut quality, though reports of condition from growing sections are otherwise. Hops are stiff in dealers' hands. Honey is firm for fine and choice is coming from Nevada from transplanted California bees. Wool is firm as ever; fine wools are scarce here, though there are some heavy wools on hand.

The State of California has received a high award at the World's Fair through a Riverside exhibit, consisting of a relief panorama of Riverside valley, showing canals, orchards and a miniature orange grove in process of irrigation. The scheme of irrigation was carried out in the most perfect detail. Such an exhibit is a fine thing to make and Riverside is entitled to much credit.

QUERIES AND REPLIES.

The Lima Bean.

To the Editor:—Please give me some information in regard to the Lima bean. I want to know why it is so called, where it originated, and in what countries it is raised outside of this State, California producing, I am informed, about two-thirds of the world's crop? I presume the bean is raised in Peru (whence the name Lima?), in Central American States, in Mexico, and probably along the Mediterrancan.—Enquirer, Oakland.

The Lima bean (Phaseolus lunatus) is a native of South America and undoubtedly takes its name from Lima in Peru, whence it was probably first taken to English speaking countries. Although it is widely grown during the frostless season throughout the temperate zone countries, it is nowhere grown in such large quantities for the commercial crop of dried beans as it is in California, and this is due to the fact that it is less subject to disease here, and because of the dryness of our surface soil during the summer it is able to run at will and to perfect its product on the ground surface—which is not possible in humid countries where it has to be lifted into the air by poles or trellises. Another reason why it is so largely grown in California is that in the southern coast region, where it enjoys a certain amount of atmospheric humidity from proximity to the ocean, it thrives and bears abundantly. It will not endure the arid atmosphere of the interior and cannot, in fact, be successfully grown across the first ridge of the coast range, because of the higher heat and greater dryness of the air. There may be, of course, other localities in the world where similar conditions prevail, but thus far they have not been found in connection with the energy and business sagacity which the southern Californians have manifested in the development of this product. They have devised culture methods and invented machines which have so cheapened the product that it remains profitable, although the wholesale price is but a fraction of that which formerly prevailed.

Pear Blight.

To the Editor:—I have in Fresno county a piece of land which is better adapted to pears than to any other fruit. But for the prevalence of the blight I certainly would put in a number of acres of pears, and still feel strongly inclined to do so. On a ranch in which I am interested we had two small pear orchards. One of them went all to pieces, and had to be grubbed out, when the blight came along, while the other was less affected and is still in fairly good condition. We have refrained from irrigating this orchard in order not to promote the growth of too much wood, and also we are careful to cut out the blighted limbs whenever the disease manifests itself. In this way we have carried the orchard along for two or three years, and this season there was a fairly good crop. It has been reported sometimes that experts thought the blight would wear itself out, or become less virulent, in a few years. While in Iowa, recently, I was told about a large pear grower there who continues to plant and grow pears, although the blight has been in his orchard for a number of years. He succeeds in fighting it and conducting the business, although, of course, under some disadvantages. I know one party in Fresno who has planted a young pear orchard, and who, so far, has succeeded in keeping off the blight pretty well. Every year he picks off all the blossoms coming on his young trees. He thinks this holds the blight at bay. What he will do when his trees get to the producing age I do not know.—Enquirer, San Francisco.

It is exceedingly likely that the man who claims that he has kept his young trees free from blight by continually pulling off the blossoms tells the truth. Nearly all cases of infection come from the visits of bees or other insects to the blossoms. Remove the blossoms and you shut off the entry of the spore. But, although this is true, it seems of little value except in the growing of thrifty young trees, a proposition, however, which might be of considerable importance to a man who wished to grow an orchard to sell out to a tenderfoot. The other consideration would be the hope that the blight would be less after a few years, and that strong, young trees could be grown for bearing under those improved conditions. This, however, lacks demonstration, although it is true, according to current reports, that after a few years the blight becomes less; but whether that is due to the multiplication of varieties which are less susceptible, or to the better retention of the pear acreage, or to some other condition, is not determined. Your policy of restricting growth by reduc-

ing moisture supply, and thus lessening the disposition of the tree to break out new shoots and unseasonable bloom, has been demonstrated to check the spread of the blight by restricting the infection to the spring blooming season and cutting out, later in the season, all wood entered at that time. As we have before remarked, it looks as though something could be done by reducing cultivation or irrigation, so that the tree has only strength to bring its fruit to just the size acceptable for shipping and canning, and not enough to indulge in riotous growth, which manifests itself in extra large fruit and new wood and bloom in midsummer. There is field for much observation and experiment along this line.

Grape Cuttings and Grafting.

To the Editor: — University Bulletin No. 127, "Bench Grafting Resistant Vines" (page 16), illustrates a "callusing bed," and page 15 states that the sand for it was taken from Napa creek. What virtue is in the washed sand of a creek that would not be found in an ordinary sandy soil used for the same purpose? Then, again (page 11), says the raffia used for binding was soaked in a 3% solution of bluestone. That percentage might be easily arrived at by the professor with his laboratory beside him, but not so easily by others not having those advantages near at hand. Could it not be stated more understandingly by giving the proportion, say of an ounce of bluestone to such a measure of water?

Where can be obtained nuts of the Japanese walnut (Juglaus Sieboldiana)?—A Reader of Your Paper, Alameda.

Water washed sand is preferred because the water has removed the silt and removed also the tendency to become cemented or baked. Clean sand is open or porous which prevents this compacting and also admit of free root extension. If by ordinary sandy soil you mean that which is coarse enough to keep mellow or loose after drying you can use that instead of clean sand—in fact most rooting of cuttings is done in that kind of soil.

You exaggerate the difficulty of making a 3% solution, or any other per cent, for that matter. If you take 100 pounds of water and three pounds of bluestone you have such a solution. And if you remember that a gallon of water weighs eight pounds you can easily measure out water to make any weight you wish and then put in three parts of bluestone to 100 parts of water. It does not require a laboratory to do that. You can do it on the back steps if the cook does not drive you away.

You can get Sieboldt walnuts from the seedsmen if you need enough to make it an object for them to secure them. There are plenty grown in this State, but there is very little use for them, commercially at least.

Egyptian and Kafir Corn.

To the Editor:—I have read a number of items about Egyptian corn and also about Kafir corn. Will you tell me whether they are the same thing, or whether there is a difference between them? Do they resemble our Indian corn in their nature—I mean in their feeding value—and, if not, will you tell me what their feeding value is? At present I am giving Egyptian corn mixed with wheat as an evening feed to fowls and would like to know whether I am feeding wisely or not.—A Subscriber, Napa.

Both grains are alike in that they are both non-saccharine sorghums. The one called Egyptian corn, or Dhoura, has a drooping head; Kafir corn and all others of its class carry their seed heads upright. For feeding purposes they are practically alike. How they compare with Indian corn is very satisfactorily described on page 262 of the Pacific Rural Press of October 22. Your mixture of Egyptian corn and wheat is all right enough for variety, and, if you can get it much cheaper than wheat, it is also desirable for economy, though it is a little less valuable than wheat in nutritive content for fowls. When wheat is not too high, it is the best grain for fowls, unless you are especially aiming at fattening. We suppose you are looking out for protein by feeding bran or alfalfa, meat meal or something of that kind. The grains are all short in protein.

Killing Weeds on Walks.

To the Editor:—Will you kindly send me a cheap formula which I may use to keep down the weeds in the walks and driveway.—Gardener, Santa Clara county.

White arsenic or arsenious acid is about the cheapest substance which is exceedingly destructive to plant life. We are not, however, able to give you definite formula for its use. It should be effective when used in the proportion of one pound to a barrel of water, dissolving the arsenic in hot water and then adding to the cold and applying with a sprinkling pot or spray pump. Care should, of course, be taken that the application is not made in such a way that the solution can be carried by the storm water from the walks to the adjacent trees or plants, because they would be liable to be killed as surely as the weeds are. You will have to try some experiment to determine what is the most satisfactory strength and, as the white arsenic is exceedingly cheap when bought in quantity, you will not risk much in experimentation. We should like very much to hear of any results you may obtain.

Soil Bacteria — Date Plants.

To the Editor: — Is there anything in the report of alfalfa bacteria for promotion of the growth of alfalfa, and if so where can they be had? Can you tell me where I can get the date palm (fruit bearing), and be sure of getting both staminate and pistillate? — Reader, Colusa county.

Referring to the doctrine of the influence of bacteria in the growth of legumes, as fully set forth in last week's Pacific Rural Press, we remark farther that where alfalfa makes a fine growth and shows tubercles on the roots, the bacteria are present and do not need introduction. Where alfalfa does not do well the introduction will help the plant — providing soil character and moisture supply befit alfalfa; if otherwise bacteria will not help it. Correspondence concerning bacteria for promoting the growth of legumes should be addressed to the Hon. James Wilson, Secretary of Agriculture, Washington, D. C. He has both literature and material for distribution.

There is no way known to us by which seedling date plants can be distinguished before fruiting, except that the pistillate are usually less husky in appearance. Of course, if the plant is grown from a sucker, it will be of same sex as the plant from which the sucker was taken, and this is the way in which the best varieties are propagated and the proper number of staminate plants secured.

Bean Rust in Texas.

To the Editor:—We planted some California pink beans Aug. 25th and for a time they grew splendidly, but about Oct. 10th they became rusty and the leaves and young beans dropped off. The only way I can account for it is that we plowed them under when the ground was very wet. Can you inform me the cause, so I can avoid it in the future?—Grower, San Antonio, Texas.

The rust on your beans is probably the regular bean rust (Uromyces fabæ), which affects particularly the underside of the leaves, and, when it is bad, practically destroys the plants. It only appears occasionally in California and especially on plants grown where the surface soil is damp by irrigation. Most of our bean crop is grown by rainfall, and the ground surface, frequently cultivated, becomes so dry that the foliage of the plant can generally rest upon it without injury. As we have no summer rains, this dry surface condition continues until the crop matures. This is one of the particular advantages which California enjoys in bean growing. For your crop you will probably have to select land which is naturally lighter, quicker to dry on the surface after a rain, and then rely upon spraying with the Bordeaux mixture to check the growth of the rust. This is the usual practice in the humid States.

To Reduce the Cottony Cushion Scale.

To the Editor:—I have some orange trees very badly affected with cottony cushion scale. Can you tell me when and where I can get the Australian lady bug? Is there any other remedy for this scale?—A Subscriber, Sutter county.

The Australian lady bug is the sole reliance. Write and send specimen of scale to Mr. Edward F. Ehrhorn, Deputy Horticultural Commissioner, Ferry Building, San Francisco.

A Lake Bottom Weed.

To the Editor:—I send a sample of a weed found on old lake bottom land set in alfalfa. I am pasturing cattle on the land and some are getting sick and some dying. Some people there think it is the weed poisoning the cattle.—Farmer, Kings county.

The weed is the prickly sow-thistle (Sonchus asper). It is possible that the weed is poisonous, since it contains a milky juice, but we can find no other report of its being suspected even of poisoning stock. Cattle have been known to eat it in small quantities without any injurious results. The gum left after evaporation of the juice has been used medicinally to increase the secretions of the stomach.

Not That Kind of a Pepper.

To the Editor:—Has the experiment of grafting the commercial black pepper into the California pepper tree ever been tried? If so, with what success?—Subscriber, Los Gatos.

The two plants are not at all related, except through their original Adamic ancestor—whatever that might have been—and the presumption is that they would have nothing to do with each other. And if they did, the fact would be of no local account because the true pepper is tropical and could not endure our temperatures.

WEATHER AND CROPS.

Report of the U. S. Weather Service for Week Ending October 31, 1904.

Alexander McAdie, Forecast Official and Section Director.

Sacramento Valley.

The weather continued warm and clear until near the close of the week, with fogs in some sections in the mornings. Light rain fell Saturday night. The soil is in excellent condition for seeding, which is progressing rapidly, and an unusually large acreage will be planted. Early sown grain continues in good condition and is making rapid growth. Green feed is of excellent quality and very plentiful. All stock are in good condition. Fruit drying is practically completed. Oranges are advancing steadily and give promise of a good crop. Olives and walnuts are being gathered.

Coast and Bay Sections.

Warm and clear weather prevailed most of the week, with fogs along the coast. Light rain fell in the central and northern sections Saturday night and Sunday. The soil was never in better condition at this season, and farmers are plowing and seeding with all possible speed. The grain acreage will probably be larger than usual. Green feed is growing rapidly and is abundant in all sections. Stock are in good condition. Potato digging is progressing and there is a fair crop. Cherry and apple trees are in bloom at Peachland. Wine making and fruit drying are nearly completed. Large shipments of apples are being made from Eureka. Cloverdale oranges are in good condition.

San Joaquin Valley.

The temperature during the week was slightly above normal and the weather was clear. Cool nights continued, with light frosts in some sections. There was a trace of rain at Fresno on the 30th. Much progress was made in curing raisins and drying prunes, and these crops will soon be disposed of. Oranges at Porterville are in excellent condition and give promise of a large yield. Olives are doing well. The soil is becoming somewhat dry in some sections, but plowing and seeding are progressing, and it is probable the usual acreage of wheat and barley will be planted. Green feed of good quality is abundant and stock are doing well. Irrigation water is plentiful.

Southern California.

The weather during the week was clear and warm, with occasional fogs in the coast districts. The drying winds of the preceding week absorbed much of the moisture in the soil, making liberal irrigation of citrus orchards necessary. The orange crop will probably be considerably higher than that of last season. Raisin making is nearly completed and most of the raisins are in sweatboxes. Walnut harvest continues; the yield is falling below early estimates, but the nuts are of good quality. Bean harvesting and thrashing are completed. Very little farm work is being done, owing to the dryness of the soil.

Los Angeles Summary.—Except irrigating and cultivating orchards nearly all farm work has been suspended, awaiting rain, though some dry plowing is being done.

Eureka Summary.—The week was cloudy along the coast and generally clear in the interior. Plowing and seeding are progressing slowly. Harvesting of apples and potatoes is nearly completed; potatoes are a good crop, and apples and peas about half an average.

Rainfall and Temperature.

The following data for the week ending 5 A. M. Wednesday, November 2, 1904, are from official sources and are furnished by the United States Weather Bureau for the Pacific Rural Press:

California Stations.	Total Rainfall for the Week	Total Seasonal Rainfall to Date	Total Seasonal Rainfall Last Year to Same Date	Average Seasonal Rainfall to Date	Maximum Temperature for the week	Minimum Temperature for the week
Eureka	.81	5.15	3 38	5 74	66	44
Red Bluff	.60	9.13	.46	2.33	76	44
Sacramento	.03	5.50	.12	1 67	76	44
San Francisco	.02	7.53	.17	1.93	70	52
Fresno	.06	5 04	.00	1.03	84	44
Independence	.00	.47	.42	.60	74	42
San Luis Obispo	.01	4 59	.02	2.34	78	44
Los Angeles	.00	1.13	.43	1.00	84	50
San Diego	.00	.16	.07	.64	76	52
Yuma	.00	.81	.66	.97	86	48

THE FIELD.

The Opportunity for General Farming in California.

By Mr. C. H. Markham, General Manager of the Southern Pacific Railroad Company, at the State Farmers' Institute at Berkeley.

The special subjects which you have come to discuss have always had for me a peculiar interest—indeed, I may say a peculiar fascination. My mind has always turned instinctively to the soil, and wherever I have lived, I have always found myself more or less associated with its interests and with those directly connected with its interests. Indeed, it has long been a favorite pleasantry with my intimate friends to call me a farmer, and I will confess to you that I have been rather proud than otherwise of the designation. The business of cultivating the soil—the business of the farmer—is not only the first thing, but the greatest of all industries, the most delightful and independent of productive occupations, the foundation upon which all other trades and professions rest. The greatest men in our national history have been farmers. Washington was a farmer; Jefferson was a farmer; John Adams divided his interest between legal practice, public life and his farm. Every man who came to distinction in our great Civil War was either a farmer or the son of a farmer; and, to-day, with only two or three exceptions, there is not a man of high distinction in any walk of American life, official or private, who did not begin life on a farm.

Transportation.—The interests of transportation, with which I am connected personally, is in the truest sense in partnership with the interest of agricultural production. And particularly so in California, where agriculture and its allied interests make the basis of industrial life. There are, I know, those among us who would subordinate agriculture to manufacture, whose interest is exerted more with reference to the building up of manufacturing industries than to development of our agricultural resources. In my judgment this is a practical mistake, founded upon an essential misconception. Up to this time the Pacific group of States has only been able to accomplish anything in the way of manufacture by sticking close to lines affording some special advantage, and I see no reason to hope that we shall do more than this for some years to come. The controlling element in manufacture under competitive conditions is a plentiful supply of relatively cheap labor, and this cannot now be obtained on this coast, nor are the conditions which affect the price of labor and maintain a high wage rate likely to be changed immediately. The immediate prosperity of California, in my judgment, depends chiefly upon the development of agriculture and horticulture, industries directly connected with the soil. And I venture to prophesy that any advance over present conditions is to come chiefly through agricultural development. The large profits secured through horticulture for a series of years gave such an impetus to the planting of trees and vines that we now have a condition of overproduction—overproduction in such a degree that further progress along horticultural lines is hardly to be thought of. We shall do well if within the next few years we maintain the figure of production of the past half a decade—if, taking season with season, we match the shipments of fruits and fruit products of recent years. It follows then that the development of more strictly farming interests is our best hope.

General Farming.—We have the basis of a large development in agriculture, both in the quality and the breadth of our lands, in the readiness in which the market both at home and elsewhere absorbs general agricultural products, and, let me add, in the universal interest attached by your meeting in the interest of agricultural promotion. From a narrow standpoint, the conditions which have existed in California have been peculiarly favorable to the transportation interest, for the reason that the average California farmer produces what may be called a wholesale crop, which he ships to a distant market, and for the further reason that he supplies his wants almost wholly by importation from distant points of production. Thus, the farmer ships both ways, paying a double toll to the carrier. In a narrow view, I repeat, the special interest of transportation is served when the product of a California farm or orchard is shipped 3000 miles to its consumer, while the California farmer himself, or at least the town dweller, imports dairy, poultry and other farm products from Iowa, Kansas and Nebraska, 2000 miles away. The system makes a full train each way; it is the ideal of the transportation manager.

Permanent Development.—But I need not say that permanent prosperity with the upbuilding of the country is hardly to be expected under this system. The country will prosper better when it shall learn the economy of limiting rather than expanding its freight bill, when it shall learn to produce at home much that is now brought from abroad, and when it shall sell in near markets much that it now ships to distant markets. If, in this last remark, I appear to be arguing against my own business, which is that of transportation, it will be seen upon reflecting that it is so in appearance only. In the long run, the advantages of transportation—the profits of the carrier—are to be promoted only by common prosperity. It is just as important for the railroads as for anybody else that the country shall become established on a sound business basis, that its people shall learn wholesome economies, that the gains of industry shall be retained rather than dissipated. The business of transportation may enjoy a kind of advantage from the system of buying abroad and selling abroad, but it is an advantage of the present which must be charged up against errors, to save the wastes, to vitalize the labors of the farm. My own wish is that every school in the country were compelled to teach the elements of agricultural science. This must come in time, since we are working around to the practical ground that the best instruction is that which enables men and women to get their living decently. But the time of universal instruction in industry as distinct from academics is not yet. As yet there is no systematic education for the farmer, excepting that which sifts out to him in one way or another through the University. Meetings like these at Berkeley are of the highest value in that they serve to develop interest and to promote inquiry with respect to matters upon which the productive life of the country and, therefore, its permanent prosperity, are chiefly dependent.

Pacific Commerce.—The development of commerce in the countries which border the Pacific ocean is coming on rapidly. Already we sell in Pacific countries almost half of our breadstuffs' product; already the Pacific market, rather than the London market, makes the price of wheat at central points in the Pacific States. The Oriental market calls not only for bread, but for our fruits, and it will ultimately demand largely of our meats and dairy products. The day, I think, is plainly in view when Pacific ocean countries will take much that California has to offer in the way of domestic products.

But leaving trade with the Orient out of the question, there is, in my opinion, no good reason why California in an agricultural sense ought not to prosper equally with any States in the Union. But we need to better our practice, and when we learn to do this we shall not buy dairy and poultry products from the Middle West, but will compete with them in the great markets of the Atlantic sea coast. The advantages of soil and climate, which have won our success in the fruit markets of the country, are designed ultimately to give us an equal success in the wide range of agricultural products. A country where labor is never oppressed by stress of weather, where animal vitality is never lost in a mere conflict with cold, where the growing season is double that of any other, must surely win when other conditions of competition shall be even. It is not even to-day, because in our devotion to what I may call the wholesale crop system we have failed to cultivate the arts of varied agriculture—have measurably lost the skill of the all-round farmer. It is for us as an agricultural people to revise our methods, to adopt our system to new times and conditions, and when this shall be done, a day of larger prosperity than it has ever known before will dawn upon California.

Lima Bean Growing in Ventura County.

Mr. George C. Power gives the Ventura Democrat an account of Lima bean growing, from which we take points of general interest:

The Value of Irrigation.—The season of 1904 is worthy of special note. The fogs have been few in number and consecutiveness, and the dampness which nearly always prevails with fogs, and upon which the Limas thrive, has been noticeably lacking. A shortage of crop was generally expected and that expectation has been fully realized. The product, however, was never, in my observation of ten years, cleaned from the fields with less loss and put in the sack in better condition than this season of 1904. The rains prevailed and the east winds blew, but the results showed better than in other seasons, when conditions seemed more favorable. Were it not for the irrigated areas under the Farmers' ditch and the Gries ditch on the north side of the river, and the Santa Clara Water & Irrigation Co.'s ditch on the south side of the river, and certain areas covered by water pumped from wells, the Lima bean crop would have been one of the smallest in the history of the culture of this noted product in Ventura county. The values of irrigated areas are in such marked contrast with less favored sections that no further argument should be necessary to impress the fact upon the mind of any agriculturist. From land of equal fertility, varying from less than five to more than thirty sacks of beans per acre, due to the lack of moisture on the one hand and the application of water on the other hand, is a most convincing proof of the value of water for and of irrigated areas in Ventura county.

The Ventura Product.—Beyond any doubt Ventura county is the "hub" of the Lima bean industry of the United States. The exact area of land planted to Limas in Ventura county is not well established, but assuming 35,000 acres and a production of 325,000 sacks, about nine sacks per acre, and at a probable average price of $3 per sack for this season, a return of $975,000, we should be reducing this year with the greater application of water at least an average of 17½ sacks on the same area, and with a fair average value for ten years of $2 per sack, or a value of $1,225,000, or an average loss to the county of $250,000.

The question of the storage of the water which rolls down the valleys of the Ventura and Santa Clara rivers' watersheds in the north half of the county to the sea has much impressed me as being a great loss and one that will be utilized in time. Nature has divided this county into two great areas. The north half, the great watershed so fortunately situated, and the south half, the fertile area destined to support so happily and comfortably a vast population.

Bean Threshing.—The Santa Clara del Norte ranch threshing machine completed its season's work on the lands of H. H. Neel, which is a part of this famous ranch. This ranch contains the largest area devoted to Lima bean culture under one management within my knowledge, and ranging from 4000 to 6000 acres according to the seasons and the changing crops. It is probably the largest in California and possibly the largest in the world. It would be interesting to develop the fact if there is another area as large or fertile, growing this valuable crop.

We often read and hear of the largest bean threshing machines in the world and located in Ventura county. There are about fifteen such machines hereabouts and all of the same size and capacity. The development of this great machine is quite interesting, and great credit is due to the many who have lent their brain, skill and handicraft to the work. To none, however, more praise is due than to Wm. Hamilton, general manager of the Ventura Manufacturing and Implement Co., who has given the best years of his life to the design and construction of what is now an almost perfect machine.

One thousand sacks per day for fifteen machines for forty days means 600,000 sacks for season's growth. What would Ventura county farmers do without this machine? With the application of electric light we are enabled to save a valuable product in the Lima bean straw, which was formerly largely destroyed in making bonfires in the fields, as well as making the arduous work more comfortable and a general safety for the entire outfit by the use of electricity. The best run of the ranch machine was in threshing 2212 sacks in 14 hours, 15 minutes—or at the rate of 155$\frac{2}{10}$ sacks per hour. At times the output was at rate of 240 sacks per hour.

To Mr. Frank Hedges, general manager of the Santa Clara del Norte ranch machine, much credit is due for a generally successful season, and from the crew of more than forty men for their staying qualities and readiness for the work. The best of harmony has prevailed, and with an old-fashioned California barbecue, in which all seemed to enjoy themselves, the season closed.

CEREAL CROPS.

California Wheat and Flour Products.

The San Francisco Merchants' Exchange is collecting statistics relative to the wheat crop of California. From the facts gathered by the exchange it is clear that something must be done to improve the growing of wheat in the State, if our millers are to continue their work for flour export trade.

From figures recently gathered by the Merchants' Exchange it is shown that the crop of 1903 fell 90,000 tons short of that of the year previous, and it is estimated that this year's crop will be 70,000 tons less than that of 1903. The figures also show that the importation of wheat is on the increase due to the fact that the foreign article is needed in the production of flour up to the standard in glutinous qualities. From these statistics the conclusion, which has already been sounded as an alarm to the farmers of the State, is drawn that unless proper means of economy and practicability are soon set on foot the immense wheat lands of this State will before many years become useless for that purpose.

In the past wheat lands in this State have been continuously cropped for a long number of years at a stretch without any attempt to renew the soil by rotation of crops and by adding to the necessary ingredients that have been gradually exhausted. The wheat farmer has done his best by giving his land a rest by the system of summer following and the seeding of crops but once in two years, but this has not proved sufficient.

Startling Importation.—During the year ending July 30, 1904, the flour mills of the State ground wheat other than of California growth to the extent of 71,220 tons, which is one-fourth of the total amount ground. This wheat as a rule was imported at a price higher than the governing price for milling wheat in the California markets, and the importation was made necessary to enable the mills to obtain a supply of wheat with sufficient glutinous contents to mix with that of native growth so as to produce flour up to the usual standard. The importation of foreign

wheats has been increasing for the last few years, and the amount of this importation is greater to-day than it has ever been.

It is predicted, and the results of the past few years tend that way, that the wheat crop of California will in the future be raised on much smaller units than has hitherto been the case. Only in a few cases has wheat been raised by means of irrigation, but with the land being gradually cut into small farms and water being used throughout the State, much of the future crops of wheat will be assisted in their growth by this means. To do this it is not necessary that the growing plant itself should be irrigated. It has been shown that it would be most advantageous to give the land a thorough soaking before seeding and thereby assure you a sufficient supply of moisture underneath for the use of the plant while growing. Working the land in small units, the matter of fertilization can be handled, which is practically impossible with fields of the present size. Under these conditions it is believed the yield per acre will be doubled.

Year's Production.—The amount of flour produced in California during the year ending June 30, 1904, was 2,188,238 barrels. The export of flour for the twelve months mentioned was 917,176 barrels, and the import of flour for the same period was 583,197 barrels. Assuming that the stock of flour on July 1, 1904, was the same as the stock of flour on July 1, 1903, it shows that the amount of flour actually consumed within the State was 1,854,259 barrels.

The generally accepted ratio of consumption in the United States is one barrel of flour per capita. It is uncertain as to whether this ratio would hold good in this State, as California has a cosmopolitan population. On this account and in view of the fact that a comparatively small amount of corn flour is used, the Merchants' Exchange secretary holds that it is probable that the consumption per capita in this State is the equivalent of 285 pounds of wheat. Taking this ratio of consumption, the population of the State is at present 1,756,500 persons. The census of 1900 gives the population of California as being 1,485,053.

In other States the question of the quality of the wheat produced has received earnest attention, and large sums of money have been appropriated by the States for the purpose of making such investigations as will assist in improving the quality and quantity of the grain raised. In this State nothing has been done in this line, and it has become a question of vital importance, although little recognized as such.

The crops of wheat in the past few years have been as follows: 1901, 830,000 tons; 1902, 560,000 tons; 1903, 470,000 tons; 1904, (estimated), 400,000.

THE DAIRY.

Forage Plants in California.

From a graduating thesis by J. S. Jones, agricultural graduate of the University of California.

The following discussion is the result of a recent investigation of the probable food and fertilizing value of certain plants grown in the garden of this experiment station. In this State, while we have quite a number of grasses suitable for the ranges, there is but a limited number of plants which meet the demands of the farmer for forage and green manure. Our most common ones are: Red clover, alfalfa, cow pea, and soy or soja bean. In the more or less humid regions of the Middle Eastern States, red clover is a favorite with the stockmen, because of its high feeding value and ability to renovate the soil upon which it is grown. In this State its use is somewhat restricted, for it can be grown successfully only along the coast and in the moist river valleys. Alfalfa does well in the Middle Western States wherever there is a sufficient depth of soil and no hardpan. Here, it has doubtless proven to be of greater value than any other legume tried. Wherever deep rooting is possible, alfalfa maintains a freshness that makes it a very desirable feed during the dry season. It does not thrive in the coast regions, because of the comparatively low temperatures prevalent here, but seems to be remarkably well adapted to the hot interior valleys, where it lies dormant during the winter season. The cow pea does best in the northern portions of the State, but being a very tender plant it has to be grown between times of spring and autumn frosts. On the other hand, the heat and dry climate of southern California prevent its introduction in that region. The soy bean, although a desirable plant, does not appear to be able to adapt itself to California soils.

In view of the above, one readily understands that, while the questions of forage and green-manuring crops is not limited to California alone, it has here a special significance, because the length of the dry season makes some such crop imperative, and because of the small number of plants available for those purposes. Any investigations of forage plants, proving their utility and adaptability to the climate and soil of this State, should be of considerable value to those interested in stock raising and general farming.

Leguminous plants have for a very long time attracted particular attention. For the building up of the animal body a great deal of nitrogenous matter is necessary. When compared with the ordinary grasses, we find that the legumes are richer in nitrogen, and in a form readily assimilated by the animal body, hence, in general, we may say that hay made from leguminous plants is of far more value to the stockmen than that made from the non-leguminous ones. Then, too, when natural pasturage is cut short by the dry season, certain legumes may be grown successfully, thus providing a succulent and rich feed at a time when most appreciated by dairymen. Now, leguminous plants, for the most part, derive their nitrogen by means of bacteria from the air. Non-leguminous ones draw upon the soil for this element. If we turn both under for their fertilizing value, we see at once that, leaving the matter of humus out of consideration, the legumes make a direct contribution to the soil upon which they grew, the non-legumes return nothing to the soil but that which they removed from it in growing. Nothing more in favor of the leguminous plants as fertilizers need be said, if we remember that, directly or indirectly, they may be made to take the place in many instances of the most expensive ingredient of artificial manures, namely, nitrates.

Of the leguminous plants grown at this station, three have been watched with a considerable interest, having in view, of course, their possible value as forage crops. Each is an annual and has made a thrifty growth on the heavy soil of the garden. The original seed was received through the United States Department of Agriculture. In its native home each has been favorably known as a forage plant.

Ochrus Pea. — Lathyrus ochrus, a native of southern Europe, is a stout vigorous appearing plant whose stems, branched only at the base, grew to a length of 3½ feet. The leaves are numerous, broad and fleshy; the flowers are rather small, being yellowish-white in color. One long tap root, with numerous feeders, provides a good root system. The seed was sown October 25, 1901; the crop was cut April 18, 1902, yielding 15¾ pounds per square yard. When dried, this green matter gave 3 pounds 3½ ounces of hay.

Tangier Pea.—Lathyrus tingitanus is a native of Algeria. In general appearance this pea resembles the Ochrus. Its stems, although reaching an even greater length than the Ochrus, are too light to support their own weight and that of the leaves grown upon them. Therefore, it presents a more tangled appearing growth than does the former. It has a well-developed root system. From seed sown October 24, 1901, there was cut on the 18th of the following April, 9¼ pounds of green material, equal, when dried, to 13 ounces.

Scarlet Vetch.—Vicia fulgens. This plant is a native of France, where it is grown for both forage and ornamental purposes. It grows more nearly erect than either of the other two. Like the Tangier pea, however, its stems are very light. The leaves are quite small and accordingly the growth appears less dense than that of the others. The seed sown on October 12, 1901, yielded the following April, 11¼ pounds of green matter, or 1 pound 12½ ounces of hay, per quare yard.

The above description will give one a very good idea of the plants as a whole and also of their several parts. The nodules on the roots of the Ochrus pea are especially well developed. For the most part they cluster about the tap root, although not confined to it. It is to be noticed that they are more or less attached to each other, and form a branch growth not unlike that of a diminutive shrub. On the Tangier roots, the nodules are not so numerous, are less confined to the tap root and more simple in structure. Those of the scarlet vetch appear to grow equally well on the small root fibers as on the tap root. They grow singly and are egg-shaped. Whether the size of these nodules, and their positions upon the roots, have any bearing upon the activity of the bacteria causing them, is a question not yet solved in so far as we know.

Having demonstrated the adaptility of these plants to the climate and soil of this region, the next step was to subject them to a chemical analysis in order to ascertain how they would compare in quantity of food and fertilizing matter with other well-kuown plants:

PERCENTAGE COMPOSITION OF FORAGE PLANTS.

	Protein.	Crude Fiber.	Nitrogen Free Ext.	Ether Ext.
Ochrus Pea	17.54	27.65	44 50	3.28
Tangier Pea	18.53	30.31	41.45	2.05
Scarlet Vetch	20.64	33.31	36 79	1.93
Red Clover	14.52	29.28	44.99	3.89
Cow Pea	18.58	22.50	48.07	2.46
Alfalfa	19.76	25.41	44.15	3.46

From this table we notice that each of our three plants compares very favorably with alfalfa in the amount of protein contained, while each is considerably richer than red clover in this most essential of food constituents. In the amount of fat, as represented under "Ether extract," they would be counted slightly deficient, if alfalfa or red clover is taken as the standard. However, this apparent deficiency of fat is not, we believe, a serious objection to the food value of these plants; for there is a great sufficiency of carbohydrates, i. e., nitrogen free extract, upon which the animal body may draw.

It must not be assumed that this table sets forth the actual food value of these plants; that is something obtained only through actual digestion experiments. Such experiments with red clover, cow pea, and alfalfa, have proven them to possess high feeding value. It is not unreasonable, then, to believe that the three plants under discussion would also prove quite valuable, if fed judiciously.

Yield.—From the figures now at hand, some interesting calculations can be made, and from them we may get at the relative values of these three plants as feeds and fertilizers. Taking the yields per square yard as grown on their individual plat in the garden as a basis, the yield in pounds per acre, calculated as green material and also as hay, is given below.

YIELDS IN POUNDS PER ACRE.

	Green.	Hay.
Ochrus Pea	76,230	15,578
Scarlet Vetch	54,450	8,620
Tangier Pea	44,770	3,392

Ochrus pea yields, in round numbers, four times as much hay as does Tangier pea and one and three-quarters times as much as scarlet vetch. In this comparison the Tangier pea is so far below either of the other two in yield per acre that we are forced to conclude that under ordinary circumstances it can not be considered as a rival in this respect.

As in the case of other legumes, the chief value of these plants as fertilizers lies in the amount of nitrogen which they give to the soil when turned under. Nitrogen in the form of nitrates, as applied in artificial fertilizers, is valued at at least 15 cents per pound. On this basis, then, we find that the value of these three plants as green manure is as follows, if we assume the above mentioned yield per acre as a fair average: Ochrus pea gives to one acre of soil 396.4 pounds of nitrogen, valued at $59.45; scarlet vetch gives 256 pounds, worth $38.40, and Tangier pea gives 103 pounds, worth $15 45. Phosphoric acid and potash need not be considered in this connection, for, by turning under the crops, they are merely returned to the soil from whence they were derived.

The actual value of these plants as green manure has been given. Whether or not they should be turned under for this purpose is a question to be decided by the person growing them. But in deciding that question several important facts must be borne in mind. As nitrogen is our most expensive fertilizer, so nitrogen, as protein, is the most expensive of food materials. Expensive as it is, however, it has to be supplied the animal body in one form or another. Now we have seen that these plants are very rich in nitrogen, a fact which indicates that they would supply all the protein necessary in the ordinary feeding operations of the farm. It is not at all probable that land, ordinarily productive, needs for succeeding crops all the nitrogen given it by plowing under this growth. By making them into hay and feeding that to animals on the farm, we would profit by the use of the carbohydrates and fat contained in these plants, as well as of the nitrogen contents. If the manure resulting from this feed is preserved and returned to the soil, there need be lost scarcely one-fifth of the entire original fertilizing ingredients of the green material. These facts speak for themselves, and from them one should not find it hard to decide upon what course to pursue.

The nature of the plants forbids of their being pastured; they would have to be cut and fed green, or, after being made into hay, the latter course being preferable in the case of Tangier pea if it is to be considered at all. When treated as indicated, we believe, from observation of the growth and nature of these plants and from the analyses made of them, that they, especially Ochrus pea and scarlet vetch, will prove to be a desirable addition to our list of legumes available as forage and green manuring crops. At any rate, they should be given a more extended trial under varying conditions of climate and soil.

The Jerseys at St. Louis.

The following are the individual records for the 120-day St. Louis dairy cow demonstration:

Name of Cow.	Total Milk.	Daily Av.	Av. %.	Total Fat.	Daily Av.
Loretta D	5802.7	48.3	4.8	280.161	2 33
Brown Lassie	5212.7	43.3	5.0	264.879	2.20
Eurybia	5439.6	45.3	5.0	263.557	2.19
Dorinda Darling	5555.0	46.3	4.6	255.321	2.13
Prize May's Duchess	5725.0	47.7	4.4	254.500	2.12
Oonan 11th of H. F.	5141.1	42.8	4.9	250.522	2.09
Baronetti of I	4916.2	40.9	5.1	248.788	2 07
Ella Golden	5120.7	42.7	4.8	246.523	2.05
Oonan 23d of H. F	5087 0	42.0	4.8	246 438	2.05
Diploma's Brown Bessie.	5095.6	42.5	4.7	243.375	2.03
Annie Seekonk	4994.2	41.6	4 8	240.273	2.00
Aaron's Queen	4947.9	41.2	4.8	238.574	1.99
Blossom of F	4906.3	40.9	4.8	236.632	1.97
King's Gazelle Fawn	4680.5	39.0	5.0	234.246	1.95
Airy's Vine Hugo	5437.0	45.3	4 3	234.234	1.95
Hoodoo Jane	4712.4	39.3	4 6	218.128	1.82
Lassie Easter Pogis	4313.8	36.0	5.0	217.841	1.81
Clarion Girl	4497.1	37.5	4.8	214.896	1.79
Dela of Eau Claire	5042.7	42.0	4.1	210.532	1.75
Bloomfield Oonan	4108.0	34.2	5.0	208.246	1.74
Rose's Glory	4923.8	41.0	4.2	208.462	1.74
Gorgeous Rosebud	5075.7	42.3	4.0	204 247	1.70
Yoethe K. of Lawn	4054.6	33.8	4.9	200.630	1.67
Chroma 3d of H. F	5080.8	42.3	3.8	195.809	1.63
Zaza of Menlo	4653.7	38.8	4.1	193.871	1 61

It is an item of interest to breeders at large to note the advancement made in the working quality of Jersey blood during the ten years elapsing between the Columbian and the Louisiana tests. The

St. Louis herd has averaged daily not only more fat, but more milk, while those of the St. Louis cows who are direct descendants of any of the Chicago cows have surpassed the official records made by their noted granddams. Merry Maiden, Brown Bessie and Ida Marigold have been household names for ten years. Merry Maiden made a record of an average daily yield of butter fat of 1.82 pound, or 2.18 pounds of 80% butter. Her granddaughter Oonan 23d of H. F. has made in the St. Louis test an average per day of 2.05 pounds fat, or of 2.46 pounds butter 80%. Brown Bessie made an average daily record of 1.98 pound fat or of 2.37 pounds, 80% butter, while her two descendants, Brown Lassie and Diploma's Brown Bessie, have made respectively 2.20 pounds fat, 2.64 pounds 80% butter and 2.03 pounds fat, 2.44 pouuds 80% butter. Ida Marigold made a daily average of 1.82 pound fat, equal to 2.18 pounds 80% butter, and her granddaughter, Ella Golden, has made an average of 2 05 pounds fat, equal to 2.46 pounds 80% butter.

THE APIARY.

Bee Notes in Stanislaus.

Mr. W. A. H. Gilstrap of Modesto gives Gleanings some notes of his experience which may be helpful to other Californians:

To kill a skunk I take a pole somewhat heavier than a fishing pole, and whip the animal to death on short notice on a moonlight night. Lately I dispatched two fine skunks in less than three minutes by this process.

The amount of honey used by a colony will never be known. The quantity fed a colony during a dearth is no test, as, during a flow, owing to more exercise, bees use much more honey. In this country they evidently use over 100 pounds per colony on an average.

It is my belief that lizards kill bees. But as they are timid they would rather watch the apiarist than kill bees in his presence. It could be expected that a lizard would lap up a bee as quick as a flash or not at all. They often take refuge in a hive and are frequently found dead there—probably stung by the bees. For several years I have killed them on suspicion.

There is a report of two queens in one cell. Frequently, when grafting with very small larvæ, I could not be quite sure that the larva was landed safely, and used another one, which has resulted in two larvæ being kept in the cell for several days.

Twenty-pound stones, or stones of any weight, could hardly be as handy here as to put a brick on a hive. They are a convenient weight to handle, and heavy enough to hold the lid. It pays to have a weight on hives where only flat covers are used. With the wind we have here, shade boards are out of the question unless the apiary is in a sheltered locality.

Discussion as to the durability of redwood reminds me of some unpainted redwood hives which I used for kindling four or five years ago because they were an undesirable shape and size. If my recollection of their history is correct, the older ones were in use before the 1862 flood, and the newest ones were made about 1863, and they might have lasted seventy years longer. The corners were put together in ordinary box fashion, and had kept in much better order than some comparatively new dovetailed hives that I once handled that were made by one of the largest bee supply firms of the world. The old hives had not been handled much—even the frames had been at rest nearly all the time. Such hives, however, are not able to stand the rough usage that pine can. This is especially true of the frames.

As for baby nuclei, it doesn't seem possible to make a success of them with brood in the comb. As I had been using combs 4¾x7 inches—four to the hive—it was natural enough to use the same comb for the baby nuclei. No brood was used. So far as tried they were a success, but a more extended use might change matters. The bees were confined one day and were brought from an outyard. Little honey was coming in at the time and none of the "babies" were fed. They look too contemptibly little to be worth smoking, and one can almost grin so small an establishment into submission. One thing more about the little "fixins:" As some of the bees insisted on getting in the joint of the hive, I tried some made like a regular hive (smaller, of course), and closed it by placing a small stick on each side of the top bar after the frame was in place. This simplifies construction and suits me better in use.

THE IRRIGATOR.

Irrigation and Drainage Engineers Wanted.

The United States Civil Service Commission announces examinations on November 22–23, 1904, at Fresno, Los Angeles, Marysville and San Francisco, in California, to secure eligibles for the positions of irrigation engineer and drainage engineer in connection with the irrigation and drainage investigations in the Office of Experiment Stations, Department of Agriculture. The initial salary will be $1500 to $2000 per annum, according to qualifications.

For irrigation engineer the examination will consist of practical questions in irrigation engineering, drawing, a thesis of not less than 1000 words, training, education and experience. For drainage engineer the examination will consist of practical questions in drainage engineering, drawing, a thesis of not less than 1000 words, and education, training and experience. Two days will be required for this examination. Age limit, 20 years or over.

This examination is open to all citizens of the United States who comply with the requirements. Applicants should at once apply either to the United States Civil Service Commission, Washington, D. C., or to the secretary of the board of examiners at the places mentioned for application form 1312. No application will be accepted unless properly executed and filed with the commission at Washington. In applying for this examination the exact title as given at the head of this announcement should be used in the application.

As examination papers are shipped direct from the commission to the place of examination, it is necessary that applications be received in ample time to arrange for the examination desired at the place indicated by the applicant. The commission will, therefore, arrange to examine any applicant whose application is received in time to permit the shipment of the necessary papers.

A City Planting a Forest.

Los Angeles, Cal., has 3000 acres of brush land called Griffith Park, which it intends to convert into a commercial forest. This will be the first instance of a city in the United States creating a forest. The practice is quite common in Europe, where the forest-parks have not only contributed to the pleasure of the people, but have been more than self-supporting through their timber output. Under its co-operative offer the Bureau of Forestry had last summer at Los Angeles four of its experts, making a comprehensive planting plan for the forest. This plan was completed at the end of September. The idea is to convert a waste piece of land into a productive forest, which will not only pay for its creation and care through the sale of mature timber, but will prove a constant source of pleasure and recreation for the citizens of Los Angeles. It is an entirely practical plan, and Los Angeles deserves credit for its progressive spirit. Other cities could very profitably follow this excellent example.

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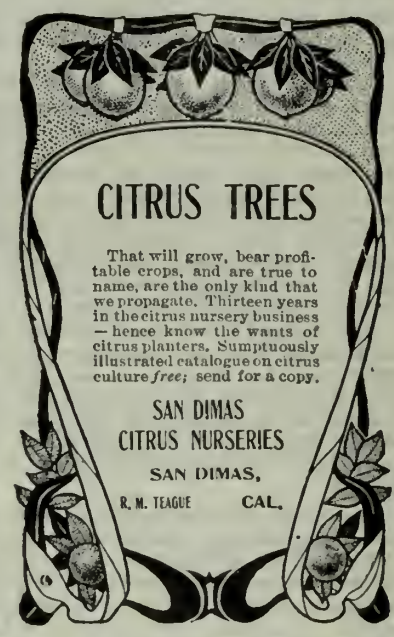
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Agricultural Review.

Colusa.

FINE BUNCH OF CATTLE. — Herald: Joseph Briggman and Thomas Lovelady recently delivered to Eybel & Webber twenty-three head of the finest conditioned steers and heifers that have found their way to this market for some time. The band was raiscd in Indian valley and are a fine exhibit of the resources of that fertile section. They brought an average of 6 cents per pound.

Kern.

LARGE WHEAT ACREAGE. — Bakersfield Echo: Reports from Tehachapi are that Charles Kerr has purchased a traction engine and is renting all the available land in the county for wheat. He is reported to be rolling over about 40 feet at a swath with the gang plows his engine draws.

Kings.

DRIED RAISINS IN STACK.—Hanford Journal: While the early fall rains proved disastrous to a large number of raisin growers, to at least one grower they were beneficial. When the first showers were predicted he carefully stacked his grapes, which were partially dry, and then as one rain followed another they were left in the stack, being taken down just once to turn them. The result was that they dried slowly, and better raisins have probably never been seen in this country. The grower received a good average price for his crop.

Mendocino.

FALL WOOL SELLS WELL. — Ukiah special to Sacramento Bee, Oct. 28: The fall wool sale is being held in Ukiah at a local warehouse. The sale commenced Tuesday, the price ranging from 19 to 19½ cents for the fall clip. This is an exceedingly good price, the spring wool only bringing 2 cents per pound more.

Monterey

THAT MYSTERIOUS DISEASE.—Salinas Index: State Veterinarian Charles Keane, County Veterinarian Dr. G. F. Faulkner and Thomas Work of Monterey have made a thorough examination of the stock below Monterey and find that the report which was made to the effect that cattle were dying off from an unknown contagion is without foundation, and pronounce the cattle in that locality to be as sound and in as good condition as any stock in the county. They state that they have found some stock slightly emaciated on account of the short feed, but that is nothing uncommon for this time of the year, but there was an absolute denial of the prevalence of any kind of disease among the cattle.

Napa.

HORSES KILLED.—Register: Dr. L. C. Kennon, veterinary inspector, was called to Napa Junction on Thursday morning to examine into the condition of several horses on the M. S. Louis ranch. Dr. Kennon found that three of the animals were afflicted with the glanders and ordered that these horses should be killed to stop the spread of the malady. They were accordingly dispatched Thursday morning.

Riverside.

ORANGES DAMAGED.—Enterprise, Oct. 25: The recent norther has greatly damaged the orange crop of the Highland section and growers are making estimates that all the way from 2% to 25% of the crop is ruined. The wind curled up the leaves, on the north side, of many trees as though they had been frost-bitten. Many of the oranges are ripening, but examination reveals the fact that a large portion of the fruit which has been damaged by the wind will fall off within the next week. It is the worst wind that the growers of the Highland section have ever experienced.

GREAT DEMAND FOR ALFALFA.—H. K. Small & Son states that there is a great demand this fall for alfalfa seed, and within the last ten days they have sold over 7500 pounds—enough to seed from 350 to 400 acres of land. Farmers this year who raised alfalfa seed are getting $300 per ton for the seed raising from 500 to 800 pounds per acre.

Sacramento.

THE PURPLE SCALE.—Union: It is reported that purple orange scale has been found on the trees at 2115 L street. The trees will be destroyed, and all other citrus trees in the city will be promptly examined and treated if necessary. This scale is one of the most dangerous kind and in southern California has caused heavy loss to citrus fruit growers. It has never before been found in northern California.

San Bernardino.

BEET HARVEST CLOSED.—Chino Valley Champion, Oct. 28: The beet harvest of 1904 is finished. The last of the beets from the Chino fields were loaded on cars Tuesday for shipment to Oxnard. The Chino crop this year amounted to 10,187 tons, besides the crop grown in Los Angeles and Orange counties, tributary to this factory. The quality of the Chino beets has been unusually high this year, and the yield was much better than was expected. In fact, it was better than that of 1903 by an average of three tons per acre. The sugar campaign at the Oxnard factory will close next Monday. The total tonnage will be about 130,000.

San Diego.

WIND DAMAGES APPLES. — Union: The strong wind prevailing here is working much damage to the Julian apple growers. The fruit is matured and is being blown from trees and bruised, making it unmarketable. The estimated crop was 30,000 boxes.

Santa Clara.

MERIDIAN FRUIT GROWERS. — San Jose Herald: At a meeting of the fruit growers held at Meridian schoolhouse Monday evening to consider the plan submitted by the business men's committee to provide a fund for advertising prunes by increasing the rates of transportation $1 per ton was thoroughly discussed by nearly all present, some twenty-five to thirty growers taking part in the discussion, and a resolution rejecting the plan offered by the committee was passed.

San Joaquin.

DAMAGED HAY.—Stockton Mail: Hay damaged by rain is being marketed in large quantities, though the price is low. It is a mistake to suppose that hay which has been wet in the bale is ruined. Even if damaged so much that horses will not eat it, cows will feed on it greedily. As a general thing the damage is between the beats, or layers, in baled hay, and by scattering and airing it the feed will be eaten by horses. The market price, however, has been cut very low even in the case of hay that was merely discolored and not really injured as feed, because buyers will not accept an article which they might find it hard to dispose of. Baled hay that was in warehouses is commanding a better price than before the rains, because the first-class supply is small.

BURNING HAY.—Stockton Independent: Much hay that was ruined by the late rains is being burned in large quantities to get it out of the way. Best wheat hay is worth $12 to $14 per ton, and other kinds $7 to $12.

LOST HALF HIS GRAPES AND MADE MONEY.—Record: Elbert A. Covell, the Woodbridge grape grower, states that his table grapes yielded $125 per acre this year, notwithstanding that he lost half his crop by reason of the untimely rains. The damaged grapes sold for $7 per ton on the vines.

Solano.

HERD OF FINE CATTLE.—Republican: B. F. Rush and William Pierce went to Lovelock, Nev., several days ago and succeeded in purchasing the entire herd of fancy bred cattle of the Humboldt Farm, owned by Joseph Marzen. The cattle purchased consists of 228 head of cows and heifers and 58 bulls. For many years Mr. Marzen has had cattle from the Humboldt Farm on exhibition at the California State Fairs and has never failed to be awarded first prizes. During the recent State Fair his cattle, which are full-blooded Durhams, were again on exhibition, and, as heretofore, they carried away the honors. The owner was in charge of the cattle, and while in Sacramento he announced that on account of his advanced age he would retire from the stock business, with the result that Messrs. Rush & Pierce visited his farm, as above stated. The cattle will arrive in Suisun some time next week and will be placed on one of Mr. Pierce's farms, which will be conducted separately by the new owners as a special breeding farm. It will be given the name of Humboldt Farm. The introduction of these cattle into Solano county will result in benefit not alone to the owners, but to cattlemen throughout this entire section of the country.

OLIVE COMPANY BEGINS OPERATIONS.— Suisun Courier: The Suisun Olive Co. has laid in a stock of fruit for pickling and making into oil and the plant has been put in operation with a small force of hands. The fruit this year is of exceptionally fine quality. The greater part of that now being received was purchased from Colonel Sam Taylor, Ralph Sparks, John Wolfskill and Wm. Baker, near Winters, and nicer fruit was never picked off a tree. George Flammer is now at Winters sup rintending the harvest of the fruit purchased there by the olive company. About thirty tons of olives will be pickled and a like amount made into oil. Ernest Catling will have charge as superintendent of the packing plant.

Sonoma.

FRUIT GOING TO GERMANY.—Santa Rosa Republican: The M. S. McDonald, Jr., Packing Company is shipping on an average two carloads of prunes per day. Most of these are going to Germany, and none of them get to France this year. The orchards of France have yielded well this season and the Frenchman is looking for a foreign market as well as California. The German would rather have a California prune than a French one, unless he can get the genuine south of France secretly cured prune, and these are much more expensive than ours. Sweden and Holland have received a goodly amount of this company's output. This company is shipping direct to Hamburg, Rotterdam, Copenhagen, Stockholm and Antwerp. Some only get as far as the Eastern cities. Among the latter points, Philadelphia is using the most.

SHIPPED THIRTY-TWO CARLOADS OF GRAPES.—Republican: A. F. Duprey has finished buying and shipping this year's crop of grapes to the Migliavacca winery at Napa. He reports that he has shipped thirty-two carloads of grapes and says that is ten less than he should have sent from this valley; but owing to the rains, there was much loss in the grape crop and he had to be satisfied with thirty-two. This amount is equivalent to 800 tons.

VALUABLE SADDLE HORSE INJURED.—Petaluma Argus: A valuable saddle horse belonging to Mr. Green was badly injured on Friday night and will probably die. The animal became entangled in its halter and fell with its neck over the rope in such manner that the neck is injured.

RECEIVED THIRTY-ONE CENTS FOR HOPS.—Healdsburg Enterprise: It is believed A. Wilson, the Bailhache Avenue hop grower, received the highest figure paid in this section for his hops. Mr. Wilson's yield was three tons and the price he received was 31 cents.

WOOL SALES. — Cloverdale Reveille: The wool sale at Cloverdale last week was very successful, 125,000 pounds being disposed of. Denigan & Co., San Francisco, purchased about 20,000 pounds; C. E. Moses & Co., 55,000 pounds; S. Koshland & Co., 50,000 pounds. Prices ranged from 15½ to 17½ cents, the best prices since 1891.

Stanislaus.

REFUSED $125 PER ACRE.—Modesto Herald: Illustrative of the market value of land in alfalfa, and of the actual value to the owner, the following will be found interesting and instructive: Within the last week $125 per acre, cash, has been offered and refused for forty acres near Ceres, upon which the buildings, etc., do not represent over $300 to $400. Nor is the land near enough to Ceres for proximity to figure materially. The owner simply regards the property as worth $125 per acre to him, and declines to sell at that price. Of course, it is a very fine piece of alfalfa.

Sutter.

TO THRESH BROOMCORN.—Marysville Democrat: James Brittan's stationary threshing outfit was moved from Sutter City to District 70 to commence the threshing of broomcorn seed. There is a large crop this season and it is of good quality. The harvest will take a week or more of good weather.

BIG LAND SALE.—Sacramento Union: A real estate firm closed up last week one of the largest transactions in country lands, so far as acreage is concerned, that has taken place in a long time. The sale embraces 23,953 acres in Sutter county on the Sacramento and Feather rivers above Knights Landing, the total purchase price being $99,003.51. A large part of the land is well adapted to the growing of beans, potatoes and corn.

Tulare.

FINE PRUNE CROP.—Porterville Enterprise: George Fleming of Visalia, of the Fleming & Jacob prune orchard at Rockyford, spent Sunday looking over the orchard. Off their 160 acres 500 tons of green fruit were gathered, which have been dried and will make about 200 tons of dried fruit. Of this about 10% was spoiled by the recent rains. The fruit is of good size and will sell for $50 or $60 a ton.

Yuba.

SECOND SALE OF FALL WOOL.—Marysville special to Sacramento Bee: Fifteen cents per pound on two small lots was the highest price realized at the second sale of fall wool conducted by the Yuba & Sutter Wool Growers' Association in this city Saturday. The buyers were only two—F. E. Green and the firm of Dickens & Kearns. Those who sold were George Summy, 3859 pounds at 10 cents; F. H. Graves, 12,804 pounds at 10¼ cents and 9341 pounds at 13⅜ cents; H. A. Austin, 8953 pounds at 14 cents; J. Brady, 6899 pounds at 13¾ cents; also 9014 pounds at 13¾ cents; J. E. Walsh, 215 pounds at 15 cents; T. J. Farnum, thirty-five bales at 13⅜ cents; Coppin Bros., 1881 pounds at 13½ cents; also 91 pounds at 15 cents; D. Dempsey, 490 pounds at 13¼ cents.

Horse Owners! Use

GOMBAULT'S



Caustic Balsam

A Safe, Speedy, and Positive Cure

The safest, Best BLISTER ever used. Takes the place of all liniaments for mild or severe action. Removes all Bunches or Blemishes from Horses and Cattle. SUPERSEDES ALL CAUTERY OR FIRING. *Impossible to produce scar or blemish.* Every bottle sold is warranted to give satisfaction. Price $1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars.

THE LAWRENCE-WILLIAMS CO., Cleveland, O.

GLENN RANCH,

Glenn County, - - California.

FOR SALE

IN SUBDIVISIONS.

This famous and well-known farm, the home of the late Dr. Glenn, "the wheat king," has been surveyed and subdivided. It is offered for sale in any sized government subdivision at remarkably low prices, and in no case, it is believed, exceeding what it is assessed for county and State taxation purposes.

This great ranch runs up and down the west bank of the Sacramento river for 15 miles. It is located in a region that has never lacked an ample rainfall, and no irrigation is required.

The river is navigable at all seasons of the year, and freight and trading boats make regular trips.

The closest personal inspection of the land by proposed purchasers is invited. Parties desiring to look at the land should go to Willows, California, and inquire for P. O. Eibe.

For further particulars and for maps, showing the subdivisions and prices per acre, address personally or by letter,

F. C. LUSK,

Agent of N. D. Rideout, Administrator of the Estate of H. J. Glenn, at Chico, Butte County, California.

S. M. DODGE & SON,

1160 Broadway, Oakland.

—o—

RANCHES WITHIN 20 MILES OF OAKLAND.

$3500.00	7½ acres full bearing fruit, Royal Ann Cherries and Muir Peaches; new 8-room house; modern plumbing; stable, etc..etc.
$3750.00	4 acres full bearing Apricots; new 4-room house; stable, chicken and pigeon range and houses complete.
$5000.00	12 acres, fruit assorted and abundant; house, stable, etc.
$5000.00	160 acres; 35 head of cattle.
$7000.00	240 acres, 200 acres tillable; abundant supply of water.

—o—

$3000.00	7½ acres near San Jose, 7 acres full bearing fruit; has paid over 6% net annually to present owner for six years and all work hired.

Large Variety of Oakland City Property Also.

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S. M. DODGE & SON,

1160 Broadway, Oakland.

Colony Tracts in Stanislaus County.

We are laying out two Colony tracts, one close to Modesto City, in that Irrigation District, and one in the country part of Turlock District, 5 miles south of Ceres. In both of them we can sell you good land, in small lots, on terms to suit. If that is what you want, we shall be pleased to hear from you.

MAZE & WREN, Modesto, California.

The Home Circle.

The Day Is Sleeping.

The day at last is closing its eyes—
  Its weary, aching eyes;
Their burning rims in the crimson west
Are soothed by the shadows to quiet rest;
  Hushed are its fretful cries.

And out of the east a darkening cloud
  Comes softly, fold on fold—
A coverlid, woven by wind and spray,
Of purple shadows, and bars of gray,
  And tiny threads of gold.

Then twilight comes in her trailing gown
  Of shimmering, clinging gray,
To tuck the purple coverlid down,
And kiss away the tired frown
  That rests on the brow of day.

She draws the curtains of deep, deep blue
  From heaven's canopy,
And sets a round, white globe of light
As signal to the sounds of night
  To croon their lullaby.

The night lamp softly burns, and low,
  A loving vigil keeping;
The cool night breezes gently blow
And sway the treetops to and fro—
  Hush! for the day is sleeping.

—Margaret Newman.

The Lamps.

My wife has countless lamps to burn,
  Frail vases slim and tall,
And squatty bows of divers shapes
  Where emerald dragons sprawl.
They're pink, and white, and red, and
    blue,
  And broad, and low, and high,
And gay with flowers no botanist
  Could hope to classify.

They shimmer, jewel-like and soft,
  From folds of silk and lace;
They faintly glow like rainbow moons
  Afloat in misty space;
They glimmer like the pearls of dew
  Upon a rose's lip,
But when we really want to see
  We light a tallow dip.

—Minna Irving.

The Cry of a Baby.

"To-morrow at this time we shall be in France, darling."

The passenger on the Flandria who speaks these words is young, distinguished looking, tall and slender and a real type of the western American.

"Are you really happy, Louise?"

"Oh, Willy, how can you ask?"

And this young bride looks at him, smiling through tears of happiness.

Every day since the Flandria left New York, William Doxton and his beautiful bride have spent together on deck, dreaming of the happy future before them. Often they had sat for hours in silence looking at the waves. True happiness needs no words to express itself.

The summer day is near its end. Far away in the west the sun is going down into the ocean, but in the east a wall of bluish black clouds is coming up. The wind is growing stronger every minute and giant waves cover the promenade deck with salty spray. One after the other the passengers disappear below. The young couple are nearly alone.

There ahead of them is France. Tomorrow night they shall be in Paris. And William Doxton, the son of a poor "gambusino" in Arizona, dreams all that he is to see and enjoy in the metropolis of the world.

The thoughts of his young bride wander back to the past.

Only five years have passed since she, a young teacher, with a heavy heart, and a light purse, crossed the ocean the first time in the steerage, going the other way. Little had she dreamed of the happiness which was to be hers or that she so soon should return in one of the cabins de luxe.

Her parents, poor peasants in the Picardie, had had to work hard to bring up their five children, of whom she, the oldest, had always been their pride.

They wanted her to be the smartest, as she was the most beautiful, girl of the little village.

"She is our young lady," her mother used to say. "She will once become rich, for there is in all France not a girl as beautiful and sweet as she is."

But when she had graduated from normal college the parents soon found out that a sweet disposition, beauty and a good education are not enough to insure a brilliant future, and Louise, who did not want to be a burden to her parents, at last made up her mind to go to America to seek a position as governess.

Her father had to sell part of his little meadow to raise the money for her passage and her going away nearly broke the poor people's hearts.

When she had arrived in New York all the suitable positions were in the Middle and Western States, and so one day she found herself on board a Southern Pacific train bound for Tucson, Ariz.

The first weeks were terribly hard for her. The barren country, with no vegetation but giant cactus, was so entirely different from her dear Picardie, with its green fields and beautiful orchards. She felt so homesick that she often thought her heart would break.

But the family to whom she had come was friendly to her and did everything to make her feel at home, and then one day she met her William.

The father of the children for whom she was governess was a rich mine-owner, and as he could not take care of his property himself he had engaged William Doxton as manager, and a better man he could never have found. If the mines had been his own property he could not have taken more interest in them. From morning to night he was in the saddle, riding from one mine to another, and every week he made his report to the owner.

When William Doxton first met the French governess he felt at once that his fate was in her hands.

From that day he came to Tuscon at least twice a week, and many months passed before he took courage to tell her of his love for her, but one day while they were sitting alone on the cool piazza he said:

"Louise, I am sure you must have felt how dearly I love you. Will you wait for me for two years until I shall have made enough to offer you a home? I am not a lady's man and do not understand how to find words to express my feelings, but you will never find a man who could love you more dearly than I do. Will you wait?"

And Louise gave him her hand and said:

"I will wait for you, Willy."

Some months later it was reported that a young prospector had struck an enormously rich silver mine near Sonora.

This man was William, and two years later he returned to ask her for her hand. The young couple were married in the old church of St. Ignace and the same day they started for France on their wedding trip.

The night had come and with it a terrific thunder storm. The decks were empty and the young couple in their cabin were listening to the fury of the wind and waves. The mighty liner rolled and pitched and the roar of the whistle told those below that fog had added to the dangers of the storm.

Suddenly there was a crash and the Flandria rolled over on one side—a steamer had hit her amidships on the starboard side.

In a moment pandemonium broke loose. It was evident to the passengers who rushed on deck that their ship was doomed. The water had already put out the fires under the boilers, the powerful engines had stopped and the electric lights had gone out.

The lifeboats were manned and women and children placed in them by the sailors, who behaved like true heroes. An officer seized Louise in his arms and placed her in a boat, which was already crowded with women and children.

"William! Willy! do not leave me," she cried, but she could see her husband nowhere.

Then just as the boat was drifting away from the side of the wreck she saw him jump overboard and swim toward her.

In vain she asked the sailors to wait for him. The boat could not hold another person, and with a cry of despair she was ready to jump overboard, when a voice at her feet made her hesitate.

A little girl of 2 years, with long, golden curls, cried tearfully: "Mama, mama! Where are you?"

Louise took the child in her arms and kissed the sweet little face. The mother instinct which slumbers in the heart of every woman had driven away the thought of suicide and shown her that life had duties for her still.

Two hours later they were picked up by a French steamer, which landed them at Havre the next morning.

Carrying the now sleeping baby girl in her arms Louise went ashore as in a dream, but hardly had her feet touched the dock when a man, his clothes all torn and disheveled, rushed toward her and threw his arms around her.

"Louise!" was all he could say.

"William!"

And it was really her husband, who, clinging to a plank, had been picked up by a channel steamer and who had landed only a few minutes earlier.

Half an hour later, when they were alone in a first class compartment of the Paris express, she told him how she had nearly committed suicide and how the cry of the baby had saved her.

With tears in her eyes she said:

"William, will you let her be our daughter?"

But William did not answer, and only embraced her closer still, and with tears in his eyes kissed the little girl whose chubby arms were around his neck.—Ernest Laurent.

Their First Quarrel.

"I felt really sorry for Emmeline," said the woman visitor. "It made me feel uncomfortable, of course, being a guest, but I was sorry for her, anyway. They seemed to get along quite well at first, and everybody said what a happy couple they were. Of course, he was polite, but anybody could notice the sarcastic tone of his voice, and although she laughed at what he said her cheeks were pretty red. I guess it wasn't their first spat by a good many."

"I always thought they got on well together," said Mrs. Wachilope. "He always seemed very nice to her, I know, and she seemed devoted to him."

"You can't always tell," said Wachilope.

"No, indeed," agreed the visitor. "Whenever I see a couple so particularly loving and sweet, I always say to myself, Look out! I make up my mind that it isn't all honey and molasses."

"Well, you mustn't think that of us," laughed Mrs. Wachilope.

"Oh, dear, no!" said the visitor, with tremendous emphasis upon the "dear."

"Because," said Wachilope, with conscious pride, "we haven't managed to accomplish our first quarrel yet."

"Isn't that lovely!" said the visitor.

"Don't you believe him," said Mrs. Wachilope "We quarrel dreadfully. He's the worst tyrant."

"My dear!" remonstrated Wachilope.

"You know you are," said the young wife. "Don't you remember when we were going to the theatre the other night how fearfully savage and impatient you were with me because you were afraid we were going to miss the train?"

"Oh!" said Wachilope, with sudden enlightenment. "You allude to my action in throwing you down the stairs and then dragging you out to the vestibule by the hair of your head. I admit that I was a little impatient then."

"Why, darling!"

"But then you exasperated me by throwing boots at me when I came up the stairs."

"Henry, dear, I don't think it nice of you to say such things even in jest."

"Well, perhaps it was only one shoe and it hit me in two places."

"It really wasn't any such thing," explained Mrs. Wachilope, turning with a distressed air to the visitor. "He's telling stories."

"Now that's a nice thing, isn't it?" said Wachilope, likewise, appealing to the guest. "A lady in her own house and not married six months coolly and deliberately tells her friend that her husband's addicted to untruths."

"Hush, my dear, or Mrs. Junkerson will think that we are quarreling now."

"Oh, no, I'm sure you are not," said the visitor, rising. "Well, I declare I've been here for nearly an hour and I didn't mean to stay more than twenty minutes at the outside. I really must go. I'm ever so glad to have found you at home. Now, you and Mr. Wachilope must come soon and see us. My bag? Oh, yes. Well, goodby. Now, don't forget to come soon. Goodby."

Wachilope noticed that his wife had more than the usual color in her cheeks as she came back into the parlor.

"Well, the old lady went, did she, sweetness?" he called, cheerfully.

"Yes," said Mrs. Wachilope, with a slight chill in her voice, "and she's gone off to spread it all over the neighborhood that we have had a quarrel."

"A quarrel!"

"Why, certainly. I'm sure you did your best to give her that impression."

"My dear, what did I say?"

"How can you ask me? You know very well what you said."

"About dragging you around by the hair of your head? My dear, why—. Ha, ha! You don't mean to say you think she had any idea of taking that seriously? Ho, ho! That's a good joke."

"You said it seriously enough. You ought to be ashamed of yourself Henry, dear."

"My own, I wouldn't have mentioned it, but don't you think it a little hard on me to say I was a tyrant and a savage and impatient to a stranger? I wouldn't have minded with anybody else, but that old hen—"

"I don't think it's nice to call a lady a hen. Besides, she had just said she suspected things when people were too nice to each other, and I thought you would have seen that."

"Oh, I'm dense, I know—and coarse. That's twice this afternoon you accused me of not being nice."

"I don't think it was nice."

"Just because I joked a little and—oh, what's the use of trying to explain?"

"And because I joked a little. That was to be taken in earnest, of course. You know I never thought of such a thing as our quarreling. You know we never quarreled yet. Why did you try to make out that we did?"

"Why did you?"

"I've already told you."

"Well, I was just following your lead. Come, don't let's lose our tempers."

"Oh, I'm perfectly calm, but you are red in the face."

"You shouldn't bite holes in your lips to show your tranquility, you—there's the door bell again!"

"Henry!"

"Beatrice!"

"This is going to be the very last."

"It was all my fault."

"No, it was mine—quick!"

"There's the bell again."—Chicago News.

First Aid to the Complexion.

Now is the season when women complain of the harm done to their complexions by the open-air life. The cause is simple, and so is the remedy.

The woman at a summer resort who washes her face in hard water will soon find that her skin is chapped. The woman who comes in from a dusty drive and bathes her face with water, either hot or cold, and then goes out again into the wind and sun will have a crop of freckles as her sure reward.

The proper way to wash the face is to use soft, warm water. Take a cold bath in the morning, if you will, but do not try to wash the face in cold water. The cuticle will surely chap if you do. Let the water be lukewarm, and add to it a little borax to soften it.

Then after the face has been washed, do not go directly out into the air. Nothing will chap the skin sooner.

Remain indoors half an hour after washing the face, and do not let the sun play upon it during that time. A little forethought in the matter will save the skin many a bad scorching and will prevent many a batch of freckles.

Now for a skin food to use upon the face. While some faces can use glycerine, others cannot. There are skins that chap with glycerine, and in such

cases glycerine should be made very weak or not used at all.

For a quickly made skin food, get from the druggist half an ounce of good cold cream. Place it in a double boiler and add to it the contents of a five-cent bottle of white vaseline. Let them melt together and add an ounce of lanolin. This is very soothing.

Finally, add half an ounce each of pure almond oil and white wax. This will make an excellent cold cream. Beat as it is cooling and add a few drops of perfume, just sufficient to scent it nicely.

Use this skin food daily on the face. But, if you cannot obtain these ingredients, you can make a very simple skin food by getting from the drug store an ounce of cold cream. Heat it and add an ounce of lanolin to it.

A cream still easier to make and one that will do very well for emergency, is made of equal parts of white vaseline and pure almond oil, heated together, and scented with a drop of rose.

This skin food should be kept in a large-mouthed bottle and used on coming in from a drive. Smear it all over the face, leave on a few minutes, then wipe it off with a very soft cloth.

Apply more of the cold cream and wipe off again. With the last wiping will come off a great deal of the dust and dirt of the drive.

The summer girl should have upon her dressing-table half a dozen bottles to be used for the complexion. She should have something to heal the skin when it has been burned, and for this there is nothing better than lime and sweet oil.

Take equal parts of each and shake in a bottle together. Use upon the face after it has been scorched or when it has a burned, stinging feeling.

Here are some don'ts for the complexion:

Don't try to wash the face when you first come in from salt-water bathing.

Don't put water on your face after a dusty drive.

Don't use water after you have golfed, or swung in the hammock, or indulged in any of the summer pastimes that are so bad for the complexion.

Don't try to use water on a tired, dusty skin. It may feel cool for the moment, but it will act as an irritant and will either take the skin off completely or injure it.

If the skin is chapped, here is a remedy: Take witch hazel and add to it an equal amount of rose water. To this add a few grain of borax powder. Shake and apply to the face. Let it dry on the skin.

And don't forget the milk-of-cucumber remedy. This is made very easily by cutting up a cucumber and covering it with water. Let it simmer, strain, add enough water to make a pint, and to this add half a teaspoonful of boracic acid. Add to it about ten drops of benzoin, or enough to make the water milky. It is one of the best skin lotions known.

And there is another cucumber remedy. Take of the juice of ripe cucumbers one whole cup. Add to it an equal portion of elder flower water. To this add half an ounce of alcohol. Make it milky with a few drops of benzoin.

This will make a very nice mixture and one that can be used upon the skin freely.

If one's arms are tanned, the best bleach is said to be peroxide of hydrogen added to lanolin.

A young Washington woman, who will not wear gloves in the summer, frequently has her hands bleached by a specialist of that city.

Taking enough peroxide of hydrogen to cover the hands, he dips first one hand of this young woman into the solution and then the other. He now gently massages the skin of the hands and arms.

Finally he washes the hands in milk of cucumbers. His direction to the young woman is to go home and sleep in complexion gloves. This will whiten the hands, and the solution has the advantage of not injuring the skin. It can be frequently used.

Women whose hands are not white enough should sweat them a little. Sleeping in gloves lined with paste will do this and so will washing them in very hot water. Do not scald the hands, but lather them well and hold them in warm water, washing them well the while.

The skin in the summer time needs twice the care required in the winter time.

The woman whose skin is dry cannot have a pretty complexion. The skin of an infant is always moist, and the result is that it is fine and smooth.

Be careful, then, in using boracic acid. It tends to dry out the skin, and while a little is good too much of it will make the skin too dry.

Remember that moisture, warmth and a certain degree of oiliness are absolutely essential to a pretty smooth skin, and that you can never hope for a nice cuticle as long as your face is dry.

And that is the reason why so many professional beauties cold cream their faces at night. They will not go to bed until they have rubbed a little face cream into the skin. They will not retire until they have assured themselves that there are no wrinkles remaining.

They massage the frown between the eyes, using a frown cream. They rub out the parenthesis around the mouth, using a good wrinkle cream. They take out the countless little lines at the corners of the eyes, using the best skin food they can obtain, and they keep on with the face, coaxing the skin into beauty, until, at the end of an hour, they are young again with a smooth, pretty skin.—N. Y. Sun.

Domestic Hints.

A Nice Bun.—Any good bread dough makes a nice "bun" for tea. Simply add an egg or two, brush the outer surface with milk, not omitting to sugar the dough to taste. A raisin is a neat central ornament and improves the taste.

Liver Pates.—For liver pates the liver of poultry are to be preferred, but, when not available, calves' liver may be used as a substitute. In any case, saute and cut into tiny dice, sprinkling with paprika and moistening very slightly with olive oil. Make "cups" of any good rich paste and line with small peas. Then put in the liver and bake until cups are done.

A Fine Flavoring.—Orange rinds in their fresh state make a fine flavoring. A good extract made without alcohol is prepared by boiling the yellow rind of a seedless orange with enough water to cover it and enough sugar to make a thin syrup. Every particle of bitter inner white skin of the rind should be peeled off and only the juicy yellow part used. This extract, though it does not keep indefinitely, will last as long as any mild syrup. Put this "temperance orange extract" into wide-mouthed bottles, leaving in the peelings. You may add fresh syrup and rinds from time to time, as you wish. When cutting up oranges for the supper table, the rinds may be laid aside and used for this purpose.

A Good Pot Roast.—This is said to be Henry Clay's favorite dish, and is guaranteed to be after a recipe of Mrs. Clay's. Have the butcher extract the bone from the rump roast and take a few stitches to keep the piece in shape. Place in an iron pot with a tight cover. Put in it two small onions with two cloves stuck in each, a pod of red pepper, two carrots, salt and a little allspice. Pour enough boiling water over the beef to nearly cover it. Let it come to a hard boil, then set the pot where it will just simmer for six hours. Place the beef on a hot dish, strain the gravy, and take off every particle of grease. Have ready one-half teaspoonful of sugar browned in a saucepan, pour the gravy over it and thicken with a little flour. When cooked pour over the beef, Cut up the carrots and arrange around the meat. A better pot roast could hardly be cooked.

Salt Cod.—Wash the fish and soak it all night in water to which has been added a few drops of lemon juice or vinegar. Take the fish out of the water, wash it well and put it into a fish kettle with sufficient boiling water to cover it. Bring it gently to a boil, skim clean and let it simmer until the flesh will leave the bone easily. Do not boil it too much, or the fish will be tasteless and tough. A piece weighing three or four pounds should not require longer than from a half to three-quarters of an hour. Drain the fish, put it on a dish covered with a napkin, garnish with hard-boiled eggs cut in rings, scraped horseradish and tufts of parsley. Send egg sauce to table in a sauce tureen, and boiled parsnips as an accompaniment. To make the egg sauce, take 1½ ounce of butter, one ounce of flour, three gills of milk, salt to taste, one saltspoonful of white pepper, or cayenne, if wished, and two hard-boiled eggs. Melt the butter in a very clean, small saucepan; stir into it the flour, and by degrees add to these the milk. When this mixture boils, throw into it the pepper and salt and let all cook for one minute. Remove the shells from the eggs, chop them into small, irregular pieces, and stir them in. Hold the saucepan over the fire for a minute to let all get thoroughly hot, and it is ready. Some persons add a little anchovy essence to the sauce.

To remove ink stains from white goods, put salt on the stain, then wet with vinegar, and rub. Repeat until the stain is removed, then rinse in clear water.

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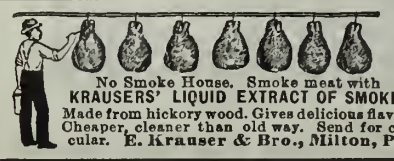
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The Markets.

San Francisco Produce Report.

San Francisco, November 2, 1904.

CHICAGO WHEAT FUTURES.

Wheat futures in Chicago were as follows for the week named, price being for No. 2 Red per bushel:

	Dec.	May.
Wednesday	$1 15¼@1 15⅝	$1 13⅞@1 12⅜
Thursday	1 13¾@1 15⅞	1 12¼@1 14
Friday	1 13 @1 13⅞	1 11½@1 12⅝
Saturday	1 13½@1 12	1 11⅞@1 11
Monday	1 12 @1 10⅛	1 11 @1 10
Tuesday	1 10⅜@1 13	1 10⅝@1 12⅝

CHICAGO CORN FUTURES.

Prices of futures on No. 2 corn per bushel in Chicago were as follows for the week:

	Dec.	May.
Wednesday	49⅜@50	46 @46⅜
Thursday	49 @50¾	46⅛@46¾
Friday	48⅞@50	45½@46⅜
Saturday	49 @48¼	45½@45⅝
Monday	48⅛@48⅝	44⅞@45⅜
Tuesday	49 @48¾	45¾@45⅛

SAN FRANCISCO WHEAT FUTURES.

The range of values in San Francisco for No. 1 White wheat per cental was as follows:

	Dec., 1904.	May, 1905.
Thursday	$1 44 @1 45½	$1 45⅝@1 47½
Friday	1 45 @1 46	1 46¾@1 47½
Saturday	1 44¾@1 44¼	1 46½@1 45½
Monday	1 43¾@1 43⅝	1 44¼@1 45⅛
Tuesday	1 43½@1 44	1 45½@1 45
Wednesday	1 43⅜@1 43¼	1 45¼@1 44¾

Wheat.

The local market for spot wheat has ruled quiet, with offerings light of all grades, but more particularly of choice to select milling. While Eastern and foreign markets were generally reported weak, and speculative values were lower, it was not possible to secure actual wheat in this market in noteworthy quantity at materially lower figures than had been ruling. All sorts of flimsy excuses were given for the breaks in the speculative market, such as fine weather, heavy deliveries by farmers, no war between England and Russia, unloading by longs, and shortage by those who were not long, etc., etc. The speculative market is nearly all the time manipulated in the interest of cliques on the inside. As a rule, when outsiders are buying, the speculative market is booming, and when the outsiders are loaded the smashing of prices begins. Once in a while an outsider by accident comes out ahead, but if he returns to the net he does not stay ahead or keep even very long. Three French ships arrived under charter for wheat or barley, or both, all to Cork for orders, usual option, one at 21s. 3d. or 20s. direct, one at 20s. 6d. or 19s. 3d. direct, the other at 20s. There was one clearance of a full cargo for Europe, 2,899 tons, valued at $82,750, and a part cargo of 562 tons, valued at $17,000.

California Milling	$1 50 @1 60
Cal. No. 1 shipping, alongside	1 42½@1 45
No. 1 Oregon Club	1 42½@1 45

PRICES OF FUTURES.

During past week the range on options was:
December, 1904, delivery, $1.46@1.42¾.
May, 1905, delivery, $1.47½@1.44¼.
Wednesday, at the forenoon session of Exchange, December, 1904, wheat sold at $1.43⅞@1.43¼; May, 1905, $1.45¼@1.44¼.

Ocean freights and prices for wheat, as compared with a year ago, are as follows:

	1903-04.	1904-05.
Liv. quotations	-s-d@-s-d	-s-d@-s-d½
Freight rates	11¼@13½s	21@—s
Local market	$1 40@1 42½	$1 42½@1 45

LOCAL STOCKS OF GRAIN.

Stocks of grain in near-by warehouses on Oct. 1 and Nov. 1:

Tons.	Oct. 1.	Nov. 1.
Wheat	63,819	*55,655
Barley	51,467	†46,205
Oats	2,974	4,383
Corn	186	172

*Including 21,743 tons at Port Costa, 31,162 tons at Stockton.
†Including 29,360 tons at Port Costa, 12,401 tons at Stockton.

Stocks of wheat in near-by warehouses on the 1st inst. show a decrease of 8,164 tons for the month of October. A year ago there were 47,786 tons of wheat in near-by warehousos.

Flour.

There is considerable flour going outward, mainly to the Orient. A tramp steamer cleared the past week with 39,000 barrels for Hong Kong. The steamer Algoa, in the regular line between this port and Asia, carried 14,018 barrels, mostly for China. Trade on local account is of moderate volume. Values are without quotable change, but for other than the very best the market is not firm.

Superfine, lower grades	$3 25	@3 50
Superfine, good to choice	3 50	@3 75
Country grades, extras	4 25	@4 50
Choice and extra choice	4 50	@5 00
Fancy brands, jobbing	5 00	@5 25
Oregon, Bakers' extra	3 75	@4 25
Washington, Bakers' extra	3 75	@4 40

Barley.

There is a good demand for barley suitable for export. Some ships chartered for barley cargo are said to be on demurrage on account of the charterers being unable to secure the grain, and with this condition of affairs, operators were endeavoring to make the market appear weak. They succeeded in temporarily depressing prices for options, still not to any very great extent, but prices for spot barley have not suffered any quotable decline, despite the efforts to depress the market. This cereal is wanted for most of the ships now here under engagement, the chartered fleet in port having a carrying capacity of fully 50,000 tons. A full cargo of 3,118 tons, valued at $73,300, went afloat the current week for Ipswich, England. A part cargo of 2,227 tons, valued at $55,700, was cleared for Cork, U. K., for orders.

Feed, No. 1 to choice	$1 11½	@1 12½
Feed, fair to good	1 07½	@1 10
Brewing, No. 1 to choice	1 12½	@1 17½
Chevalier, No. 1 to choice	1 20	@1 25
Chevalier, common to fair	1 00	@1 10

Oats.

Market is fairly well stocked with common feed oats, but there is not much offering of any other kind. Millers are carrying moderate supplies, purchased mainly in the North. Choice to select feed oats are not obtainable in large quantity, even at an advance on current quotations. Desirable seed oats are in such light stock as to be hardly quotable. Black Russian of select quality are practically off the market.

White oats, fancy feed	$1 50	@1 55
White, good to choice	1 37½	@1 45
White, poor to fair	1 27½	@1 35
Milling	1 45	@1 50
Black oats	1 30	@1 65
Red, fair to choice	1 25	@1 50

Corn.

Eastern product is in moderate supply, mostly of rather ordinary quality, and is being held at much the same figures as have been current for several weeks past. Choice California is in very light stock here and there are no evidences of much being held in the interior.

Large White, good to choice	$1 45	@1 50
Large Yellow	1 45	@1 50
Small Yellow	1 60	@1 65
Egyptian White	—	@—
Egyptian Brown	—	@—
Eastern, in bulk	1 35	@1 45

Rye.

Stocks are of small volume and are being quite firmly held.

Good to choice	$1 40	@1 45

Buckwheat.

Market has a firm tone. While nominal values are $1.90@2.25 for good to choice, based on buyers' views, there is none to be had at these figures.

Beans.

There have been tolerably heavy arrivals of beans lately, but mostly rain-damaged stock. These wet boans have been selling as low as $20 per ton and few of the damaged were good enough to command over 2c. per lb. Good to choice beans are not being crowded to salo, and in many instances are being held above utmost figures warranted as wholesale quotations.

Pea, fair to good, 100 lbs	$2 90	@3 10
Small White, good to choice	3 15	@3 35
Large White	2 40	@2 65
Pinks	2 85	@3 25
Bayos, good to choice	2 50	@2 85
Red Kidneys	4 50	@5 00
Reds	4 00	@4 50
Limas, good to choice	4 10	@4 20
Black-eye Beans	2 50	@2 70

Dried Peas.

Offerings are principally Green and Niles, more or less damp. In the absence of noteworthy supplies, values for Garbanzos are largely nominal.

Green Peas, California	2 25	@2 50
Garbanzos, Large	3 25	@3 50
Garbanzos, Small	3 00	@3 25
Niles	2 25	@—

Hops.

Market presents the same firm tone previously noted. There are few hops being offered here from either first or second hands. A press dispatch from Portland, under date of October 28th, says: "One hundred and forty thousand pounds of hops, the largest shipment ever made from this city, were forwarded to London to-day. The hops were bought during the past week at an average price of 30½c. a pound. They amount to 715 bales and make ten carloads. At the present time there are left only 15,000 bales in the hands of original owners, and in view of the constantly advancing prices, an effort is being made to form a pool under agreement not to sell for ninety days." The New York Producers' Price Current says: "There has been little if any change in the general situation during the week. Actual business in this State has been lighter, owing to the comparatively light remaining stocks in growers' hands, and the indifference of owners about selling at present offers. Rarely if ever before in the history of the hop trade has so much of the crop passed out of growers' hands at so early a date in the season. In this State 35@36c. are promptly offered for choice growths, but attracting few sellers, some of whom have their ideas as high as 40c., but the highest price we have heard of as yet has been 37c., which was paid for selections by a Western brewer. Foreign advices continue firm. On the local market there has been fair activity and holders are very firm in their views."

California, good to choice, 1904 crop	28	@31

Wool.

Good to choice wools are in active request, and market for stock of this description is firm at prevailing values. There are some short and heavy wools on the market, which would show up very little after being scoured, and such are receiving scarcely any attention. Strictly choice wools are scarce.

SPRING.

Northern, free	21	@22
Northern, defective	17	@20
Oregon, good to choice	20	@22
Nevada	15	@20

FALL.

Northern	14	@18
San Joaquin and Southern, free	12	@15
San Joaquin and Southern, defective	8	@10
Southern lambs, as to quality	8	@14

Hay and Straw.

For best grades of hay the market is fairly steady at quotably unchanged values, but the demand is not brisk at full current figures and offerings are of tolerably liberal proportions. Damaged hay is meeting with slow sale at low prices, in many instances hardly bringing enough to pay freight and expenses of marketing.

Wheat, good to choice	$14 00	@ 15 50
Wheat and Oat	11 00	@ 14 00
Tame Oat, fair to choice	8 00	@ 13 00
Wild Oat	8 00	@ 11 00
Barley	9 00	@ 12 00
Alfalfa	10 00	@ 12 00
Stock hay	5 00	@ 7 00
Compressed	13 00	@ 15 50
Straw, ₱ bale	50	@ 65

Millstuffs.

Bran is offering in larger quantity than necessary for the immediate demand, and market is weak at the quotations. Middlings are not in heavy stock and are being rather steadily held. In quotable values for other millstuffs there are no changes to note.

Bran, ₱ ton	$18 50	@ 19 50
Middlings	24 00	@ 27 00
Shorts, Oregon	20 00	@ 22 00
Barley, Rolled	23 00	@ 24 00
Cornmeal	32 00	@ 32 50
Cracked Corn	32 50	@ 33 00
Oilcake Meal	31 50	@ 33 00

Seeds.

Alfalfa Seed is in active request, but very little has been obtainable lately, either of California or Utah product. A shipment from Utah was caught in the recent railroad wreck at Reno. Not much Mustard Seed of any sort arriving, and fair demand for same. Of the other seeds quoted herewith there are no large quantities offering.

Flax	$1 75	@ 2 25
Mustard, Yellow	3 50	@ 4 00
Mustard, Trieste	4 50	@ 5 00
		Per lb.
Alfalfa		15 @15½
Canary		6½@ 6¾
Rape		1¾@ 2½
Hemp		3½@—
Timothy		5 @ 5½

Honey.

Market is tolerably firm for high grade honey, with little of this sort in stock. Of the medium and lower grades there is more than enough for the immediate demand. Six carloads of Hawaiian Island honey recently arrived here, and is reported to have been shipped East; more is expected from same quarter.

Extracted, White Liquid	6	@ 6½
Extracted, Light Amber	4½	@ 5½
Extracted, Amber	3¾	@ 4¼
Extracted, Dark Amber	3	@ 3½
White Comb, 1-frames	12½	@13
Amber Comb	9	@11

Beeswax.

Stocks in this center are light. No trouble in securing custom for desirable qualities at full current figures.

Good to choice, light ₱ lb	29	@30
Dark	27	@28

Live Stock and Meats.

There are no heavy quantities of prime to choice Beef on market, and for this description there is a good inquiry at prevailing values. Of common cattle there are more than enough for the demand. Market for Veal is weak for small and steady for large. Mutton and Lamb are in fair supply and are selling at quotably unchanged figures. Market for Hogs is ruling steady; there are fair receipts, but no lack of buyers.

Allowing for the shrinkage of about 50%, which is exacted in buying cattle on the hoof, live cattle command as much or more per pound than dressed beef, the shrinkage exacted being the slaughterers' profit.

The following quotations for beef and mutton are based on prices realized by slaughterers from wholesale dealers:

Beef, 1st quality, dressed, net ₱ lb	6	@ 6½
Beef, 2nd quality	5	@ 5½
Beef, 3rd quality	3	@ 5
Mutton—ewes, 6½@7c; wethers	7	@ 7½
Hogs, hard grain, 140 to 200 lbs	4½	@—
Hogs, large, hard, over 200 pounds	4½	@ 4½
Hogs, small, fat	4½	@ 4¼
Veal, large, ₱ lb	6	@ 7
Veal, small, ₱ lb	7	@ 9
Lamb, spring, ₱ lb	8	@ 8½

Hides, Skins and Tallow.

Values for Hides in good condition are being well maintained at the figures quoted. No changes to note in prices for Pelts or Tallow.

Nothing but select hides, clean and trimmed will bring full figures. Culls of all kinds, either from grubs, cuts, hair slips, side brands or murrain, are not always readily placed at the lower figures.

	Sound.	Culls.
Heavy Steers, over 56 lbs	— @10	— @ 9½
Medium Steers, 48 to 56 lbs	— @ 9½	— @ 9
Light Steers, under 48 lbs	— @ 9	— @ 8½
Heavy Cow Hides, over 50 lbs	— @ 9½	— @ 8½
Light Cow Hides, under 50 lbs	— @ 9	— @ 8½
Stags	— @ 7	— @ 6
Wet Salted Kip	— @10	— @ 9
Wet Salted Veal	— @11	— @10
Wet Salted Calf	— @11½	— @10½
Dry Hides	16½@17	15½@16
Dry Kip and Veal, 11 to 16 lbs	13 @14	12 @13
Dry Calf, under 4 lbs	— @19	— @17
Pelts, long wool, ₱ skin		1 00@1 50
Pelts, medium, ₱ skin		70@ 90
Pelts, short wool, ₱ skin		40@ 60
Pelts, shearling, ₱ skin		15@ 30
Horse Hides, salted, large prime, each		2 75@—
Horse Hides, salted, medium		2 50@—
Horse Hides, salted, small		2 00@—
Horse Hides, dry, large		1 75@—
Horse Hides, dry, medium		1 50@—
Horse Hides, dry, small		1 00@—
Tallow, good quality		4 @4½
Tallow, poorer grades		2½@3½

Bags and Bagging.

This market is quiet throughout and is likely to so continue for several months. There is little other than asking figures upon which to base quotations.

Bean Bags	$ 4¼@5
Fruit Sacks, cotton	6½@7½
Fruit Sacks, jute, as to quality	5¾@7
Grain Bags, Calcutta, 22x36, spot	5 @5¼
Grain Bags, San Quentin, ₱ 100	4 50 @—
Wool Sacks, 4-lb	32 @—
Wool Sacks, 3¼ lb	30 @—

Poultry.

While there have been tolerably free receipts of Eastern poultry the past week, good to choice California stock was not neglected and sold as a rule to fair advantage. Large and fat young stock received the most attention and brought decidedly the best figures. Young Turkoys were in light receipt; indications are that good prices will be realized for this fowl during the holiday period. Market for Young Pigeons was not as firm as preceding week, supplies being more liberal.

Turkeys, Young, ₱ lb	$ 21	@ 23
Turkeys, live gobblers, ₱ lb	15	@ 16
Turkeys, live hens ₱ lb	16	@ 18
Hens, California, ₱ dozen	4 50	@ 5 00
Hens, large	5 50	@ 6 00
Roosters, old	4 00	@ 4 50
Roosters, young (full-grown)	5 00	@ 6 00
Fryers	4 00	@ 4 50
Broilers, large	3 00	@ 3 50
Broilers, small to medium	2 00	@ 3 00
Ducks, old, ₱ dozen	4 50	@ 5 00
Ducks, large young, ₱ dozen	5 00	@ 6 00
Geese, ₱ pair	1 50	@ 2 00
Goslings, ₱ pair	2 00	@ 2 25
Pigeons, old, ₱ dozen	1 00	@ 1 25
Pigeons, young	2 00	@ 2 25

Butter.

There have been further declines in values and a generally weak and demoralized market. Many cows are coming in fresh and some dairymen are rushing in butter which is unfit for food, being the product of cows just calved. Retailers are working off their cold storage holdings and are buying very little fresh.

Creamery, extras, ₱ lb	23	@25
Creamery, firsts	21	@22
Creamery, seconds	18	@20
Dairy, select	20	@21
Dairy, firsts	18	@20
Dairy, seconds	15	@16
Mixed Store	13	@14

Cheese.

Market is moderately firm for mild new domestic flats, more especially for the well known and favorite brands. Small cheese are in fair supply and not very active request. Eastern cheddars and twins are being firmly held.

California, fancy flat, new	11½@12½
California, good to choice	10 @11
California, fair to good	9½@10
California, "Young Americas"	10 @12½
Eastern	11 @13

Eggs.

Strictly select fresh, uniformly large and white, are in light stock. Some sales of very high grade eggs are being made in a small way at 46@47c., including cost of delivery. Common fresh are not sought after. Eastern and cold storage eggs are being offered freely and are being urged to sale at comparatively low figures.

California, select, large, white and fresh.	43 @45
California, select, irregular color & size.	35 @42½
California, good to choice store	27½@32½
Eastern firsts	23 @27
Eastern seconds	19 @21

Vegetables.

Common Tomatoes were in heavy supply, mostly unripe, but there were few which could be termed choice. Rhubarb was in moderate receipt from Alvarado, but did not meet with active demand, most consumers preferring this vegetable in the spring season. String and Wax Beans were in fairly liberal receipt. Onions were in increased supply, but demand was good and market ruled firm.

Beans, Lima, ₱ lb	4	@ 5
Beans, String, ₱ lb	1½	@ 2½
Beans, Wax, ₱ lb	1½	@ 3
Cabbage, choice garden, ₱ 100 lbs	65	@ 80
Cucumbers, ₱ box	30	@ 60
Egg Plant, ₱ box	30	@ 60
Garlic, ₱ lb	4	@ 4½
Mushrooms, ₱ lb	10	@ 20
Okra, Green, ₱ box	50	@ 75
Onions, Yellow Danver, ₱ ctl	1 35	@ 1 65
Peppers, Green, ₱ box	25	@ 50

Rhubarb, ₱ box	1 00	@	1 50
Summer Squash, ₱ box	50	@	75
Tomatoes, box	25	@	50

NOTE.—Large boxes are what are known to the trade as "pay boxes," which have to be returned or paid for. They are open top, with hand holes in the ends, and weigh when filled from 50@60 lbs gross. Small boxes are free boxes, about the same as the regular fruit box, weighing when full from 20 to 30 lbs. gross.

Potatoes.

Market has been glutted with common potatoes, and of choice stock there has been an abundance for the immediate demand. There are few being shipped outward at present in any direction. Sweets were in free receipt and prices were without quotable improvement.

Salinas Burbanks, ₱ cental	1 00	@	1 35
River Burbanks, ₱ cental	40	@	75
River Reds, ₱ cental	65	@	80
Sweet Potatoes, ₱ cental	75	@	1 00

Fresh Fruits

The leading feature of the fresh fruit market was the heavy receipts of Apples, about 15,000 boxes being landed here at the beginning of the week, including six cars from Colorado, the equivalent of ten carloads from Oregon by rail and boat, and free shipments from Humboldt and Santa Cruz counties. Fancy Oregon Spitzenberg were held at $1.75, but with this exception the market for good to choice Apples ranged mainly from $1.00@$1.25. Offerings were made up largely of Ben Davis, Jonathans and Kings. Late Pears were in only moderate stock; choice Winter Nelis were salable to fair advantage. Persimmons did not make a very heavy display, neither was the demand for them active. Pomegranates in small boxes were held at a little higher range of values. Table Grapes were in tolerably good supply and the quality of good average, considering the recent unfavorable weather. There were not many Berries on market; choice were in fair request.

Apples, fancy, ₱ 50-box	1 40	@	1 65
Apples, good to choice, 50-lb. bx	1 00	@	1 25
Apples, fair to good, ₱ box	60	@	1 00
Figs, ₱ box	50	@	1 00
Grapes, ₱ box or crate	40	@	75
Grapes, large open boxes	1 00	@	1 50
Huckleberries, ₱ lb	5	@	8
Pears, Winter Nelis, ₱ box	1 00	@	1 50
Pears, Cooking, ₱ box	40	@	75
Persimmons, ₱ regular box	50	@	1 00
Pomegranates, ₱ small box	50	@	75
Pomegranates, ₱ large box	75	@	1 25
Pomegranates, fancy, ₱ large box	1 50	@	1 75
Quinces, ₱ box	40	@	60
Raspberries, ₱ chest	4 00	@	7 00
Strawberries, Longworth, ₱ chest	6 00	@	9 00
Strawberries, large, ₱ chest	2 50	@	5 00

Dried Fruits.

Stocks of cured and evaporated fruits are showing steady reduction. Small Prunes are being more firmly held. Medium sizes are ruling steady, and any changes in values in the near future are more apt to be to firmer than to easier figures, although that there will be any pronounced fluctuations is not considered probable. Large Prunes are in light stock and market for 40-50's is firm at unchanged quotations. The shipment of Prunes to Europe continues, the steamer San Jose, sailing on Saturday last, carrying 130,000 lbs. for Belgium. The steamer City of Puebla, sailing the past week for British Columbia, carried 24,000 lbs. assorted dried fruit, exclusive of Raisins and including 4,500 lbs. Prunes. Market for Peaches is decidedly firm, and to purchase freely at this date an advance on quotations would have to be paid. Nectarines are inclining against buyers and are not offering in great quantity. Apricots are firmly held, with stocks of slim proportions. Apples are arriving quite freely and market is weak, although not sufficiently so to warrant any pronounced reduction in quotations. Pears are held about as previously quoted, but only for the best qualities are current values well maintained.

EVAPORATED OR BLEACHED.

Apples, 50-lb boxes, rings, pressed, good to choice	5½	@	6
Apples, extra choice to fancy, 50-lb boxes	6	@	6½
Apricots, Moorpark	8	@	11½
Apricots, Royal, good to choice, ₱ lb	7½	@	8½
Apricots, Royal, fancy	9	@	10
Figs, 10-lb box, 1-lb cartons	55	@	60
Nectarines, Red, ₱ lb	6	@	6½
Nectarines, White and Yellow	6½	@	7½
Peaches, unpeeled, good to choice	7¼	@	7¾
Peaches, unpeeled, fancy to extra fancy	8	@	9
Pears, standard, ₱ lb	6¾	@	7¼
Pears, choice to fancy	8	@	10½
Plums, Black, pitted	5½	@	6½
Plums, Red, pitted	6½	@	8
Plums, Yellow, pitted	6½	@	7½
Prunes, Silver, good to fancy	4	@	7½

Prunes, in bags, 4 sizes, 1¼@1¼c; 40-50s, 3¼@4c; 50-60s, 2½@2¾c; 60-70s, 2@2¼c; 70-80s, 1½@1¾c; 80-90s, 1¼@1½c; 90-100s, 1@1¼c; small, ⅞@1c.

COMMON SUN-DRIED.

Apples, sliced	3½	@	4½
Apples, quartered	3½	@	4½
Figs, White, in bulk	2	@	2½
Figs, Black	2½	@	4

Raisins.

The Raisin market shows unsettled condition for new crop, dealers quoting clusters, good average loose Muscatels and unbleached Thompsons at a decline for late November deliveries. On the other hand, some of last year's Raisins held by the packers are quoted higher. A shipment of 56,400 lbs. went forward by steamer for British Columbia.

CROP OF 1904.

(Fresno delivery except otherwise specified,)

London Layers, 2-crown, 20-lb box	90	@	95
London Layers, 3-crown, 20-lb box	90	@	1 00
Fancy Clusters, 4 crown, 20-lb box	1 35	@	——
Dehesas, 20-lb box	1 85	@	——
Imperials, 20-lb box	2 25	@	2 35
2-Crown Standard loose Muscatel	3	@	3¼c
3-Crown Standard	3½	@	3¾c
4-Crown Standard	4¼	@	4½c
Seedless Thompsons	3¾	@	4 c
Seedless Sultanas	2¾	@	3 c
Fancy, 16-oz. Seeded			5½c
Choice, 16-oz. Seeded			4¾c
Fancy, 12-oz. Seeded			4¾c
Choice, 12-oz. Seeded			3⅞c
Bleached Sultanas, Woodland Dist., 50s	4¼	@	4⅜c
Bleached Thompsons, Woodland Dist., 50s	4½	@	8 c

Citrus Fruits.

New crop Navel Oranges are on market in sufficient quantity to warrant quoting, and will soon be arriving freely. Late Valencias are in fair supply, and being full ripe, are commanding better average figures than the new Navels. Lemon market was firmer, especially for strictly choice, which were in scant supply. Lime market was without quotable change.

Oranges, New Navels, ₱ box	3 50	@	4 50
Oranges, Valencias, ₱ box	3 00	@	4 00
Lemons, California, select, ₱ box	2 75	@	3 25
Lemons, California, good to choice	2 25	@	2 75
Lemons, California, fair to good	1 25	@	2 25
Grape Fruit, ₱ box	2 00	@	3 50
Limes, Mexican, ₱ box	4 00	@	4 50

Nuts.

Almond market is firm for best qualities, such being in good request and in light stock. Walnuts are not coming forward as rapidly as expected, and the quality of receipts thus far is not up to the average of last year. For choice Walnuts the market is firm and demand good.

Chestnuts, Cal., ₱ lb	8	@	10
Nonpareil Almonds	13	@	16
I X L Almonds	12½	@	14
Ne Plus Ultra Almonds	12	@	13
Languedoc Almonds	9½	@	10½
Peanuts, fair to prime	5½	@	6½
Cal. Walnuts, No. 1 soft shell	12	@	12½
Cal. Walnuts, No. 2 soft shell	10	@	10½
Cal. Walnuts, No. 1 hard shell	11	@	11½
Cal. Walnuts, No. 2 hard shell	9	@	9½

Wine.

Movement in this year's wine is expected to begin in about thirty days. Values for last year's dry wines remain quotably unchanged at 15@18c per gallon, San Francisco delivery, but it is doubtful if free purchases could be effected within this range. Sweet wines of 1903 are quoted at 30c per gallon at the wineries. Receipts of wine at San Francisco last week were 246,325 gallons, and for previous week were 243,100 gallons. Receipts for October were 1,112,200 gallons, and for October, 1903, were 1,464,450 gallons. The steamer San Jose, sailing Oct. 29, carried 86,354 gallons and 36 cases wine, including 82,154 gallons for New York.

Produce Receipts.

Receipts and exports of leading cereals and other California products for the past week and for the season to date, as compared with the corresponding time the previous year, are as follows:

FOR THE WEEK.		Since July 1, 1904.	Same time last year.
Flour, ¼ sks	133,102	1,777,054	2,177,518
Wheat, ctls	46,301	1,044,609	784,883
Barley, ctls	56,947	1,368,307	3,101,116
Oats, ctls	34,145	468,423	521,150
Corn, ctls	5,175	47,264	50,228
Rye, ctls	823	21,295	24,768
Beans, sks	53,905	195,657	327,828
Potatoes, sks	24,710	416,162	424,920
Onions, sks	1,294	57,275	75,875
Hay, tons	3,120	79,483	84,798
Wool, bales	2,745	30,937	26,728
Hops, bales	1,367	23,515	17,556

EXPORTS BY SEA.

FOR THE WEEK.		Since July 1, 1904.	Same time last year.
Flour, ¼ sk	39,096	1,276,660	1,497,352
Wheat, ctls	80	140,844	327,281
Barley, ctls	1,539	655,491	2,447,944
Oats, ctls	30	6,835	10,049
Corn, ctls	7,039	22,984	6,515
Beans, sks	1,292	25,590	13,161
Hay, bales	98	50,513	64,776
Wool, lbs	68,028	809,532	1,358,159
Hops, lbs	240	125,709	286,255
Honey, cases	2	648	2,326
Potatoes, pkgs	833	35,718	32,355

WALNUT SHIPPING AT ITS HEIGHT.—Anaheim Gazette, Oct. 27: Walnut headquarters at the West End depot present a busy scene nowadays, shipment of nuts being at its height. Five cars have been shipped East this week, and shipments will continue until the middle of November, by which time it is hoped to have the entire yield on its way to market. The local packing house has installed a gasoline engine for operating the grader, and under the able supervision of G. A. Hunter more nuts are being handled daily than ever before. Quality is excellent, but from all portions of the county come reports of a light crop. While some orchards are producing more than average crops, growers in other sections reports a falling off of half. The total output of Orange county will fall below 300 ten-ton carloads rather than go above it. Estimates of the total yield go as high as 850 cars, but this is probably high. Mr. Neff, president of the local walnut growers' association, says he is turning down orders almost daily, not caring to sell the association "short." The bulk of the crop in southern California is already sold, and prices are firm with upward tendency. The local association may have a few carloads yet to sell, but is making no contracts for future delivery. It is confidently expected that within three weeks every nut in the county will be across the Sierras on the way to Eastern markets.

Reach for the Parcels Post.

TO THE EDITOR:—At the University of California last Wednesday President Wheeler addressed the State Farmers' Institute. "Reach for things, don't wait for them" was the keynote of his oration.

His speech inspired me. Though not on the programme I reached for a chance to speak on parcels post. I did not wait, I got what I reached for—the floor—and urged all present to "reach" for their nominees for Congress, for the State Senate, for the Assembly, and let them understand what the farmers of California wanted.

If these nominees won't help the people "reach" for the parcels post and other things the people want, then let those nominees "wait" a long time before they get elected.

EDWARD BERWICK.

Pacific Grove.

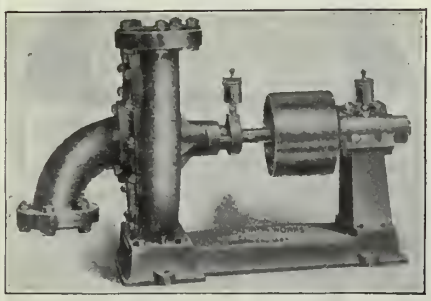
New Patents.

DEWEY, STRONG & CO.'S SCIENTIFIC PRESS PATENT AGENCY, 330 Market St., S. F., has official reports of the following U. S. patents issued to Pacific coast inventors:

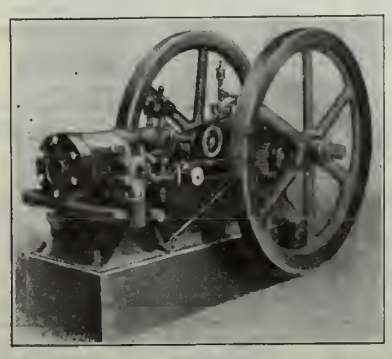
FOR WEEK ENDING OCTOBER 18, 1904.

772,866.—INCUBATOR—H. A. Brooks, Los Angeles, Cal.
772,556.—WIRE STRETCHER—E. Denison, S. F.
772,791.—CARBURETER—E. L. Dow, Oakland, Cal.
772,558.—STOVES—K. A. Duff, S. F.
772,880.—PUMP—S. M. Fulton, Pomona, Cal.
772,888.—CORK EXTRACTOR—J. Kaiser, S. F.
772,618.—TRAP NETS—T. E. P. Keegan, Tacoma, Wash.
772,521.—SHINGLING GAGE—J. J. Knox, Los Angeles, Cal.
772,939.—SPLIT PULLY—G. F. McLynn, Cottage-grove, Or.
772,728.—OIL WELL PACKER—J. E. Merritt, Bakersfield, Cal.
772,573.—VEHICLE WHEEL—W. Morck, Oakland, Cal.
772,744.—BRACKET—J. E. Packard, Los Angeles, Cal.
772,746.—FIREARM—E. E. Redfield, Glendale, Or.
772,535.—VALVE GEAR—E. A. Rix, S. F.
772,379.—FIRE LADDER—O. A. Sarvela, Rockley, Cal.
772,538.—SAW FILING MACHINE—M. P. Schell, S. F.
772,540.—CONCENTRATOR—C. A. Smith, Los Angeles, Cal.
772,594—GAS BURNER—R. H. Walter, Los Angeles, Cal.
772,546.—OIL BURNER—H. H. Watts, Bakersfield, Cal.
772,854.—SHOE LACE—P. Wilehart, Oregon City, Or.
772,487.—LOCK—G. W. Winckfield, Oakland, Cal.
772,488.—VAPOR GENERATOR—G. E. Witt, S. F.

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THE GARDEN.

Chrysanthemums at San Jose.

Mr. M. D. Gage gives the San Jose Mercury some notes on chrysanthemum growing, as pursued by local growers, which are in part of wide interest. He notes first the injuries by this year's rains, which have been heavier than ever known before since the first settlers came to California and have greatly injured the flowers grown by all engaged in that business, especially of those that matured in September.

Interviews with two San Jose growers have elicited much interesting information on the subject. The details of cultivation are obtained chiefly from Mrs. Hubbard, who has for the last three years produced many varieties of her favorite flower. She is actuated by her passionate interest in floriculture, not as a means of profit, but for the pure enjoyment which is derived from the pursuit.

The chrysanthemum is planted in May, and it must be cultivated carefully and irrigated once in three days until the last of July. Old manure is required for enriching the soil, as fresh compost causes the plants to "burn," by absorption of the water in the decaying process of vegetable growths, which enter largely into all fresh manures. The plants must also be cut back until the middle of July. At the origin of each leaf a bud also attends the growth. Hence it becomes necessary to detach all those buds except the one at the origin of the topmost leaf. All the vital energy in each branch of a plant is thus directed to the development of a single flower, which also receives the full benefit of light from the sun. The earth, the water, the air and the solar rays are joint contributors to the production of a flower which needs only human skill to make it a marvel of beauty and of majesty such as no other floral growth can surpass, not even the rose admitting of a greater modification.

The plants are produced from both slips and shoots and with equal facility. A single plant may be made to yield a large number of flowers, each main branch giving off several minor branches, so that the flowers form a cluster whose varied sizes and aspects present an attractive picture.

Mrs. Hubbard has at the present time about 1500 choice flowers and has cut 400 fully matured ones which she distributed among her numerous friends. Of that number the Major McKinley justly ranked first, the Major Boniface being second. Both varieties are exceedingly attractive in their hues and in the contour of their petals.

We also interviewed F. W. Murdoch, at 383 South Seventh street, who is a connoisseur in floriculture and who has more than 120 varieties of the chrysanthemums. He informed us that there are not less than 1000 species of that magnificent flower now produced by floriculturists. He has in former years developed a huge flower measuring 8 inches in diameter. The October rains have greatly injured this season's product, many of the flowers clearly indicating the damage caused by a rainfall at the time of usual maturity. Another important fact is that while the usual date for filling orders from florists is not earlier than October 20, fully matured flowers were produced as early as September 27. The cause of such premature maturity must have been the unusually early rains in August and the high temperature of the succeeding hot period in September. Thousands of flowers which matured later were ruined by the October rains. Still there remain many very beautiful specimens of all varieties which have been developed since the rains ceased. Mr. Murdoch furnished the following list of plants, giving the variety and color of each, many of which are of the most exquisite character:

Pink—Marie Liger, Mrs. Coombes, R. E. Richardson, Lucy Evans, Mrs. Perrin, G. K. Shaw, Glory of the Pacific, Paradise Beauty, Helen Bloodgood, Viviand Morel and others.

Red—Mrs. C. J. Salter, Dazzler, Leopard, Malcolm Lamond, Black Hawk, George W. Childs, W. W. Cole, King and others.

Miscellaneous — Waban, Princess, Buff Princess, Mrs. Adams, Petaluma, C. B. Whitnall, Kentucky and James G. Maguire, a San Jose seedling.

Not half the varieties in the collection of this grower are mentioned in the above list. The collection contains almost every shade of color and shape found in the chrysanthemum family, even the ostrich plume variety, headed by F. J. Taggart, being represented.

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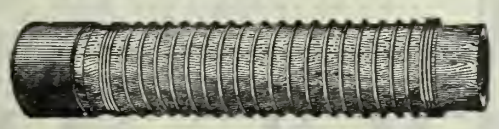
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From 3-in. to 10-ft. in diameter for

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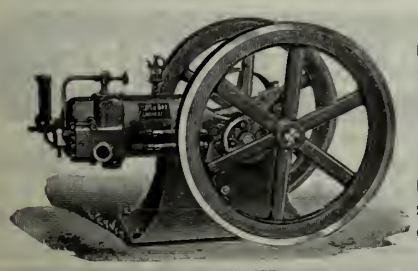
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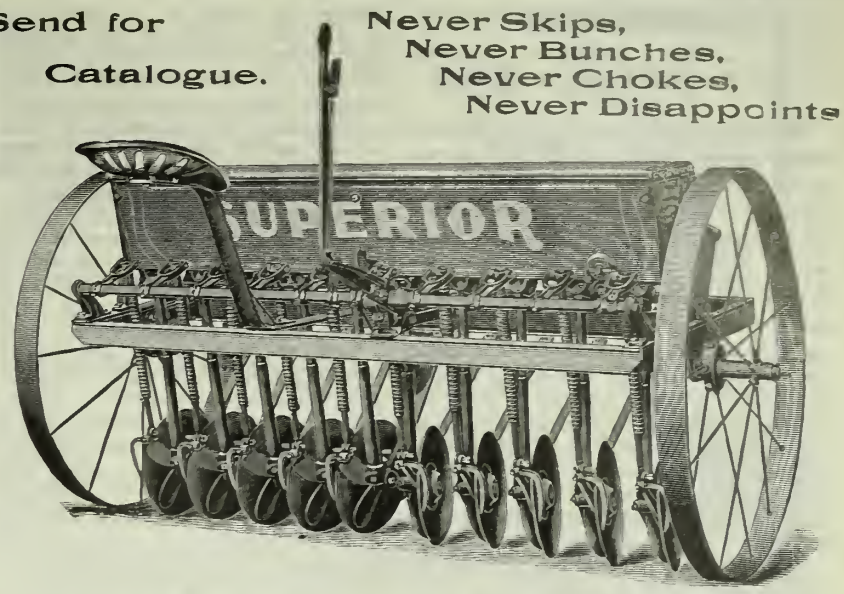
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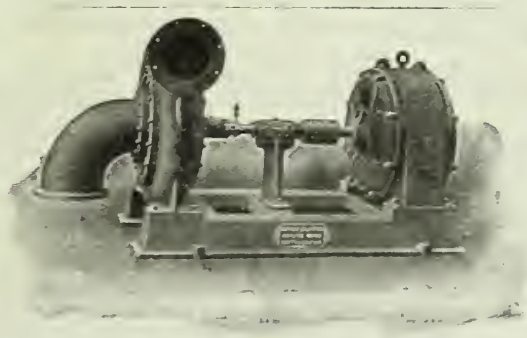
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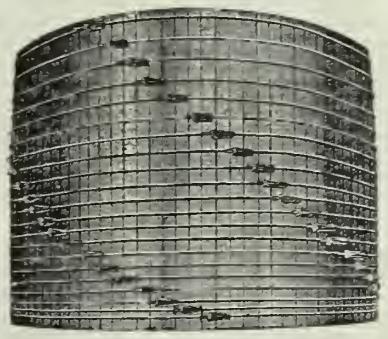
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Costs no more, is easier to set up and is far superior to the old style flat-hoop tanks for any purpose. They need no water channels or perishable devices for keeping the staves wet. They are always tight. The hoops are of steel and tighten with a monkey wrench. They have an upset thread end 6 inches long. Each hoop has from 2 to 6 lugs or shoes, according to size of tank. Send for price list of stock sizes.

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PORTABLE BUILDINGS.

No. 810---Assembly, School or Store Room.

25 feet 2¾ inches wide, by 31 feet 5¼ inches long; gable roof ¼ pitch. Double walls 9 feet high.

Price on application.

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THE THREE ESSENTIAL ELEMENTS OF PLANT FOOD.

Can be supplied alone or mixed in any proportion to supply whatever deficiency may exist in the soil, thus paying only for what is lacking and necessary to replace.

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FORESTRY.

The National Forest Reserves.

Excluding the two reserves in Alaska, which cover nearly 5,000,000 acres, there are now in the United States fifty-one forest reserves, with a combined area of 57,833,974 acres. These reserves are divided among thirteen States and Territories of the West. If they redeem arid land only to the extent of their own areas, it would mean 373,337 new farms of 160 acres each—for water is the West's greatest need, and it is now recognized that water conservation is to be the most important service rendered by the reserves. What this would mean in the way of increased agricultural wealth it is easy to see.

The people of the United States, as a whole, have little idea of the enormous magnitude of the interests affected by the Government's forest reserve policy. Timber supply, important as this is, is a relatively small part of the whole purpose. The reclamation of millions of acres of arid land, a sustained or heightened fertility for other millions of acres of farm lands, and, finally, the safeguarding for the future of pasturage for millions of head of sheep and cattle are already certain results of that policy. It contemplates furnishing the present and thousands of prospective settlers wood, water, tillable lands and prosperous homes. Roundly stated, the purpose is to give these forest reserves their highest utility to all who use them now or will use them hereafter.

This is clearly a work of stupendous proportions. Irrigation, which will prove the salvation of millions of acres of these lands, can not realize its largest possibilities unless the watersheds of the West are under conservative forest management. Great damage has been done there by overgrazing, reckless lumbering, and, most of all, by fires. Reserves were established to stop this damage and to give the forests their greatest usefulness by conserving the water supply without shutting off the supply of timber. On account of the expense and natural conditions involved, there is a limit to the size of impounding reservoirs, hence the necessity for preventing their overflow by floods, and for making their supply regular, that all the water possible may be saved for use. Forests are the chief agency in this work, and to maintain them is absolutely essential to the reclamation of the arid West.

This use of a forest, however, is not at all inconsistent with its use for many purposes. Lumbering, when rightly done, is an advantage, not a detriment. Grazing, when regulated, does not injure the forest, and prospecting, locating, and developing mines are not interfered with by reserve restrictions. Thus the Government, is establishing reserves, in no sense withdraws the forests from use. On the contrary, while all their present uses are continued, their greatest power for good is kept from injury and increased in value by the wise and careful protection afforded by reserve management. Only under such management can these forests most effectively aid irrigation in reclaiming thousands of square miles of waste lands, and in building homes over vast areas hitherto regarded as impossible of settlement.

The Bureau of Forestry has had during the past summer fifteen agents in the field investigating actual and proposed forest reserves. If they discover that agricultural lands, or lands more valuable for other purposes, have been included in reserves, they will recommend their immediate exclusion. If they find land which will be more useful when reserved than when not reserved, they will recommend that it be added to an adjacent reserve or form a new one.

Often the hardest task of the Bureau agents is in reconciling conflicting local interests. Sheep and cattle men may be disputing over the same grazing grounds, or each class may be at war over individual grazing rights. Again, owners of farms or of water power plants may object to any grazing in the forests, lest the water supply be injured. In all such cases the Bureau experts must examine and report on every phase of the question, that, so far as possible, absolute justice may be done to all interests. In perfecting present boundaries and increasing reserve areas temporary local injury to some interest is sometimes inevitable. This is most unfortunate, but these occasional injuries cannot weigh against the importance of the general purpose of forest reserve establishment.

In all of this work one large fact is to be recognized. It is that in the execution of the policy of reserving from private acquisition such parts of the public domain as are suited to forest growth and most useful under permanent forests, a far-reaching and beneficent policy is being carried out. Under it the Government is acting to secure perpetually in the interests of the whole people vast wealth-producing resources which otherwise, under the stimulus of immediate private profits from lumbering, grazing and the like, would in no long time be lost forever.

FRUIT MARKETING.

Placer County Fruit Growers Do Not Want More Fruit Grown.

There was a meeting of fruit growers held in Placer county last week, in which a hot protest was made against bringing more people to California to grow fruit. The telegraphed report of the meeting is as follows:

The fruit growers of Placer county met October 29 at Loomis and took the most decided step in years against the transportation companies. By a practically unanimous vote a resolution was passed "opposing the method pursued by the transportation companies, the chambers of commerce and Promotion Committee in their efforts to induce thousands of Easterners to come here for the purpose of investigating fruit growing." This has been a poor crop year any way, and the excessive transportation charges and refrigerator rebates and the false icing of cars have made the fruit grower somewhat discouraged.

R. D. Stephens of Sacramento was present, and, in a vigorous speech, said that the only way to fight an opponent was to hit him where it hurts, and he believed that if the fruit growers would publish to the world—publish the truth—that there was no money to be made in fruit growing under present conditions, it might bring relief.

Our boards of trade and chambers of commerce, supported as they were by the patriotic producer, had simply been feeding the transportation companies.

The meeting was enthusiastic, and, after Stephens' address and the passing of the resolution, proceeded to organize for the purpose of "promoting, protecting and defending the interests of the fruit growers of Placer county."

J. N. Barton of Loomis presided and J. F. Madden of Newcastle acted as secretary. The following Placer county fruit growers signed the roll: A. B. Whittier, Andrew Ryder, J. J. Brennan, H. P. Markert, Robert Ferguson, J. L. Law, J. C. Erb, J. N. Barton, R. M. Nixon, G. F. Rowell, G. H. Brown, C. H. Francis, W. H. Tudsbury, S. C. Laird, C. Dolce, J. E. Emerson, J. A. Flasher and C. F. Cushman of Loomis; Paul H. Steude, William Ammon, O. L. Goetz, Ira Avery, G. F. Parkins, J. L. Nagle, J. F. Madden, Charles Werner and A. Fereva of Newcastle; E. J. and E. Martin of Fruitvale; E. L. Hawk of Rocklin; W. J. McCann, P. M. Crary and R. J. Allbright of Auburn; L. C. Gage, R. A. Lafayette, A. S. Symes, L Miller, A. L. Labbe, H. J. Hansen and Hans Jansen of Gold Hill; W. H. Curtis and George Burtscher of Bowman; L. E. Butt, J. Thompson, Wm. Carr and D. Kays of Penryn; James Astill of Roseville.

Another meeting will be held at Loomis next Saturday at 10 A. M.

Ashland Claims World's Big Apple.—An Ashland dispatch says: Apples that are believed to beat the world's record for size were raised this season on a tree in Walter Messenger's yard in this town. They are of the Gloria Mundi variety, and Mr. Messenger brought the biggest one he could find on the tree and exhibited it. The specimen tipped the scale at 27 ounces, and its size attracted much attention, even in a land of big apples. Six apples from this tree, not counting the 27-ounce sample, averaged 22¾ ounces each, and Mr. Messenger says he filled up a regular-sized apple box to overflowing with thirty apples from the same tree.

THE FRESNO SCRAPER.
3½—4—5 Foot.



FRESNO AGRICULTURAL WORKS
FRESNO, CALIFORNIA.

Genuine Oliver Plows
both Riding and Walking
are the most popular and most reliable plows on the market to-day.



OLIVER PLOWS
Stand in the Lead for STRENGTH, DURABILITY, LIGHTNESS OF DRAFT, and ADAPTABILITY to
ALL KINDS OF SOIL.
Send for Catalogue to
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BEE HIVES
—Manufactured by—
CALIFORNIA LUMBER & MILLING CO.
DOVETAIL, HALF-CORNER AND BOX-CORNER HIVES.
GUARANTEED TO BE THE BEST MADE!
Write for catalog. 738 Mission Street, San Francisco, Cal.

FRANCIS SMITH & CO., Manufacturers of
SHEET IRON & STEEL PIPE
FOR TOWN WATER WORKS.
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WATER AND OIL TANKS—ALL SIZES. Iron cut, punched and formed, for making pipe on ground where required. All kinds of Tools supplied for making pipe.
Estimates given when required. Are prepared forcoating all sizes of Pipes with Asphaltum.

DON'T BUY GASOLINE ENGINES UNTIL YOU INVESTICATE "THE MASTER WORKMAN," a two-cylinder gasoline engine superior to all one cylinder engines; revolutionizing gas power. Costs Less to Buy and Less to Run. Quickly, easily started. No vibration. Can be mounted on any wagon at small cost—portable, stationary or traction. Mention this paper. SEND FOR CATALOGUE. THE TEMPLE PUMP CO., Mfrs., Meagher & 15th Sts., Chicago, THIS IS OUR FIFTY-FIRST YEAR.

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HORSES AND CATTLE.

HOLSTEINS—Butter bred working herd. Herd established 1885. Winners over Jerseys, of every Butter Contest at State and County Fairs—Holsteins whose sires and dams were bred by me WON EVERY PRIZE at last State Fair (1903). Frank H. Burke, 30 Montgomery street, San Francisco, Cal.

SHORTHORNS—Quinto herd. 77 premiums Cal. State Fair 1902-3-4. Young bulls and heifers for sale. Write us what you want. Est of W. H. Howard. 206 Sansome St., San Francisco.

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KNOB HILL STOCK FARM—Polannd-China Swine and Short Horn Cattle; both sexes A. M. Henry, Farmington, San Joaquin Co., Cal.

BULLS AND COWS FOR SALE—Short Horned Durhams. Address E. S. Driver, Antelope, Cal.

A.J.C.C. JERSEYS. Service bulls of noted strains. Joseph Mailliard, San Geronimo, Marin Co., Cal.

BULLS—Devons and Shorthorns. All pure bred and registered. Fine individuals. At prices to suit the times, either singly or in carload lots. Oakwood Park Stock Farm, Danville, Cal.

PETER SAXE & SON, Lick House, S.F., Cal. Importers, Breeders and Dealers for past 30 years. All varieties Cattle, Horses, Sheep, Hogs. High class breeding stock. Correspondence solicited.

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BRONZE Turkeys and Eggs—Ed. Hart, Clements, Cal. Large size, good plumage, early maturity.

L. W. CLARK, Petaluma, Cal. White Leghorns, the white kind that lay lots of large, white eggs.

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WHITE MINORCAS, Pekin Ducks and Barred Rocks. Willis S. Rose, Antioch, Cal.

C. B. CARRINGTON, Haywards, Cal. White Leghorns. Send for folder giving prize record from 1899 to Sept. 1904. Eggs and stock for sale.

SANTA TERESA POULTRY FARM, Eden Vale, Santa Clara Co., Cal. White and Brown Leghorns, White Wyandottes, Barred Plymouth Rocks, Black Minorcas, White Cochin Bantams.

SWINE.

THE SAN GABRIEL VALLEY HERD OF POLAND-CHINA HOGS won at the Cal. State Fair (1904) 23 prizes, 2 gold medals, 2 silver medals. Have young stock of both sexes for sale and some sows that are bred. Address W. R. McCaslin & Son, Cosumnes, Sacramento Co., Cal.

BERKSHIRE, POLAND-CHINA, CHESTER WHITE HOGS. Choice; Thoroughbreds. **Wm. Niles & Co.,** Los Angeles, Cal. Establ'd in 1876.

BERKSHIRES—Prize Winners—bred from prize winners. Boars all ages. T. Waite, Perkins, Cal.

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BERKSHIRE AND POLAND-CHINA HOGS. C. A. Stowe, Stockton.

FOR SALE—Registered Berkshire Hogs. Geo. C. Roeding, Fresno, Cal.

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THOROUGHBRED Berkshire swine and Southdown buck lambs. Perkins & Co., 1028 J St., Sacramento.

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GEO. H. CROLEY, 508 Sacramento St., San Francisco. Manufacturer and Dealer in **Poultry Supplies** of every description. Send for catalogue—FREE.

HOLSTEIN-FRIESIAN BULLS.

Do you want one that will improve your herd—one with strong official backing on both sides? The sire is half the herd. It is important that you use a good one. We have a choice lot of them. Let us send you one. Remember, our herd contains a larger number of cows with official records than any other herd in the world. PIERCE LAND & STOCK CO., 14 Turk Street, San Francisco, Cal. Ranch, Rough and Ready Island near Stockton

BUFF ORPINGTONS

LARGEST CLEAN-LEGGED BIRD IN THE LIST.
LAY LIKE LEGHORNS.
LARGER THAN PLYMOUTH ROCKS.

My Orpingtons won 13 of a possible 15 prizes at State Fair Sept. 1.
Eggs $3 and $5 per set; $15 per 100. Stock for sale.

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Cocoanut Oil Cake.

THE BEST FEED FOR STOCK, CHICKENS AND PIGS.

For sale in lots to suit by

El Dorado Oil Works

208 California St., San Francisco, Cal.

Oiled Roads in Alameda County.

The State Department of Highways reports that in Alameda county the oiling of roads began in 1902, and there are now about 150 miles. The soil is mostly gravelly, some sandy loam, and some adobe and clay. On clay soil the road was first plowed and crowned, and oil applied at the rate of 400 barrels to the mile for a strip 12 feet wide, then rolled. On roads having a hard macadam surface, of which there is a considerable mileage, the application of the oil, 175 barrels per mile, was followed by a coating of ½-inch thick of creek sand. Two-thirds as much oil is usually applied the second year, though in some cases a second application is made three weeks to two months after the first.

In preparing light soils for oiling, the roadbed, after receiving the oil, is usually covered with shale rock or creek gravel, or a combination of both mixed with the natural earth. In some instances, in the vicinity of cities and towns, where there is much travel, the oiled strip is 18 feet wide. The oil is heated to 212° by passing live steam through a coil of pipe in the storage tank, the expense being 5½ cents per barrel. A 12° gravity oil will expand about 1% to each 20° heat above 60°. For contract work the oil is always measured hot, the price being made accordingly; when cold oil is specified the price is higher.

The oil comes from the Sunset (Kern county) district, is of 12° to 13° gravity and 50% asphalt. The average cost of applying to the road, in addition to the cost of the oil, heating, etc., is 25 cents per barrel. The DeCamp machine has been used in the work. In maintaining the roads in good condition twenty-five to thirty barrels of oil per mile are required each year. The prompt repairing of chuck holes and breaks in the surface saves a much greater expense caused by delay in such work. Most of the oiled roads of the county are in the neighborhood of Berkeley, Haywards, Livermore, Midway, Niles, Pleasanton and Sunol.

BLACK LEG is likely to break out and keep up all winter unless checked by vaccination, and the spring and summer calves, having as a rule reached the age when they may take black leg, should be vaccinated now, and as to the young calves that were vaccinated last spring, most of them will by this time have lost the protection afforded by the vaccine and require to be revaccinated. This matter is carefully discussed in a circular published by the Pasteur Vaccine Co., entitled, "Notes on Vaccination." Write for a copy. Their head office is 219 E. Randolph St., Chicago, Ill., and branch office 409 Market St., San Francisco, Cal.

BOSTON, Mass., July 12, 1883.
Dr. S. A. Tuttle.—Having used your Elixir for sore backs, colic, sprains, horse ail, spinal meningitis, all with perfect success, we would recommend it to all horse owners.
BLACKMER & SHEPARD, Lumber Dealers, 354 Albany St.

Vaccinate Now

AGAINST

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BLACKLEG.

CUTTER'S are the lowest priced *reliable* vaccines made and are cheaper to use than even free vaccines would be, because they afford greater protection.

Write for descriptive literature, testimonials and prices.

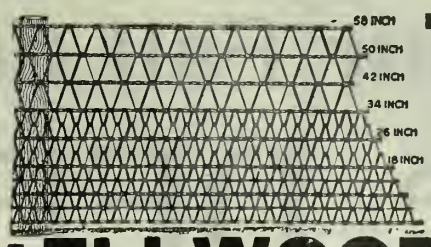
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Good Terms! Moderate Prices! Liberal Guarantee!

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Emery's Poultry Foods are sold by all dealers and commission men because they are the BEST.

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Color Deep Red. Both Sexes for Sale.

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They were all imported from England, or bred direct from imported stock.



We have also bred American Merinos—Hornless Sheep—for 30 years. They are a large sheep, with out wrinkles. Rams will produce 20 to 25 pounds of long, white wool yearly. Sheep of both sexes for sale.



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We have a complete Patent Library, including official records since 1793 and full certified copies of all patents issued since 1872. These are for free examination by any one who desires.

We attend to all business connected with patents, such as the preparation of Caveats, Trade-Marks, Design Patents, Assignments, Licenses and Agreements. We make examinations as to the patentability of inventions, searches, and give opinions as to infringements, or the scope or validity of Patents. Our Branch Offices and arrangements for Foreign Patents, Trade-Marks, etc., are very extensive and complete. Inventors' Guide sent free on application.

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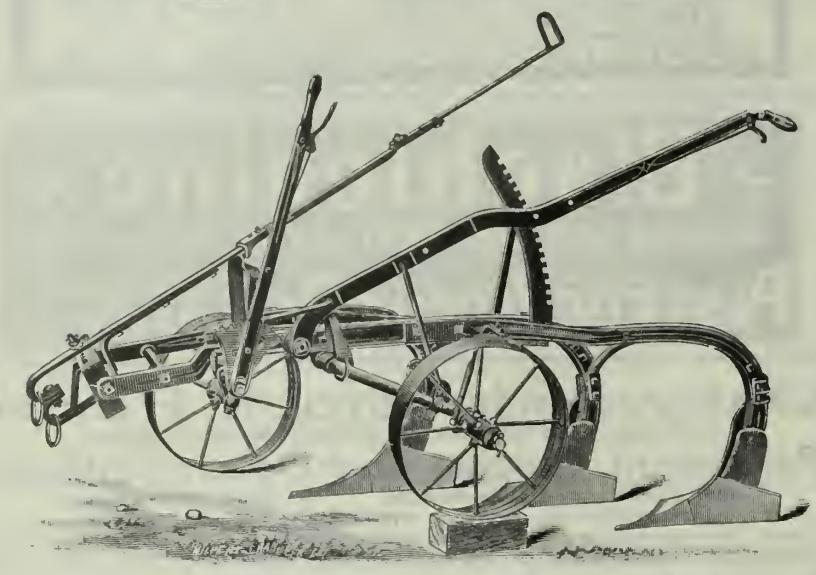
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At reasonable prices. For further particulars inquire of

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From 1 to 4 Gang. 8, 10, 12 or 14-inch Bottoms.

THE LEADING GANG PLOW OF THE WEST.

A COMPLETE STOCK OF
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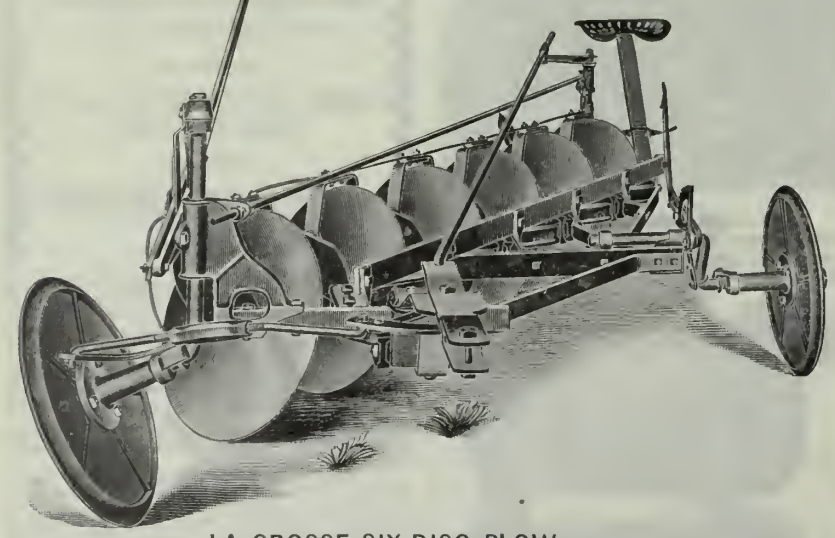
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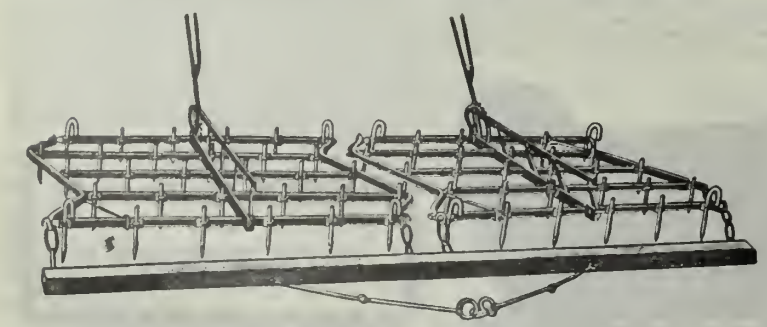
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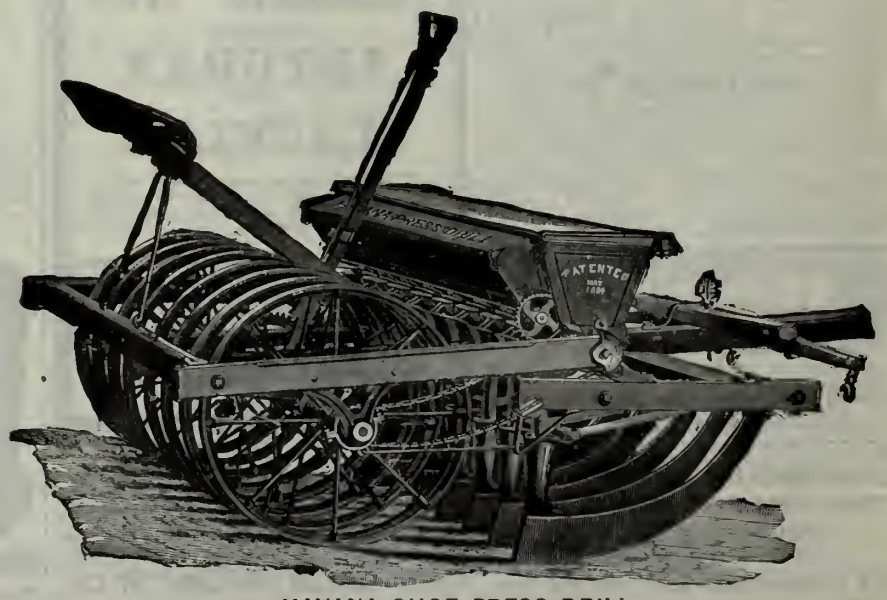
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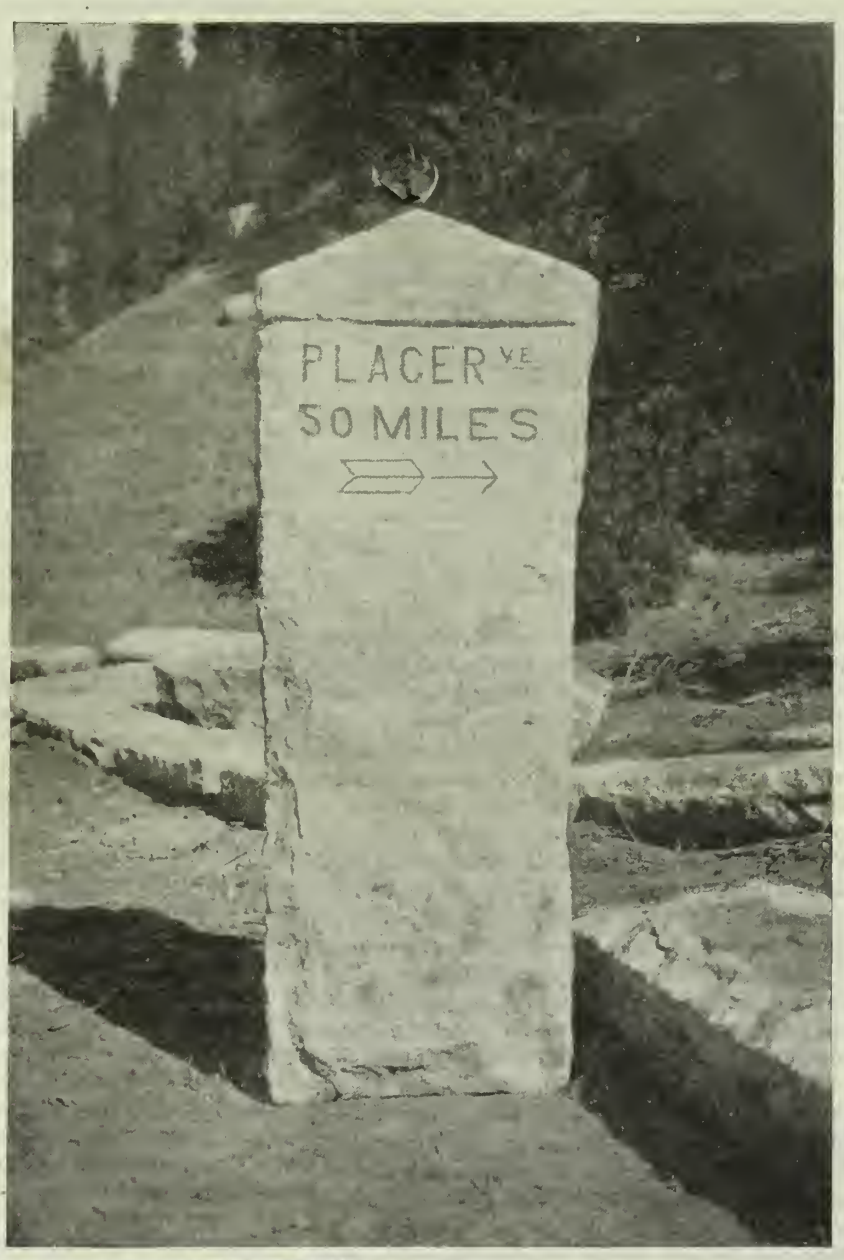
Vol. LXVIII. No. 20. SAN FRANCISCO, SATURDAY, NOVEMBER 12, 1904. THIRTY-FOURTH YEAR. Office, 330 Market St.

Road Improvements.

As the session of the Legislature approaches, interest quickens in proposed road legislation. There will evidently be a number of important measures proposed. Some will be fathered by county supervisors and conceived to be the teachings of their experience. Others will be promoted by associations like the El Camino Real Association of Los Angeles, which is now making a propagandist campaign throughout the State and advocating measures which are wider in their bearings than the location restoration and improvement of the real road which the old padres first made in their establishment of connection between the missions constituting their chain of christianizing agencies along the coast from San Diego to San Francisco. The restoration of this old road naturally appeals to all antiquaries and others interested in local history. It also suggests itself as a way to secure a fine wagon road up and down the coast, but those having the agitation in charge look farther and hope to revive and extend the idea of securing State highways which was mooted a few years ago by the State Highway Commissioners, and is still awaiting the attainment of public interest warm and forcible enough to secure the funds necessary for the construction of such great wheeling and wagoning avenues. There will also, no doubt, be brought to the attention of the Legislature the necessity of providing for the completion of the great trans-sierra highways upon which great progress has been made under the administration of Mr. N. Ellery, the present State Highway Commissioner. Thus there promises to be no lack of interest in things both new and old in the way of roads at the coming assembling of the lawmakers. Aside from legislation, the dissemination of full information about oiled roads, which will be conveyed in the report of Mr. Ellery, will be of wide importance.

One minor matter in the way of improving roads seems now to be making headway in California after a long period of rumination on the part of the public, and that is the adoption of a system of nomenclature and local designation for the guidance of travelers. Some years ago Mr. A. L. Bancroft, then of this city, announced his system of dividing roads into blocks, and designating main roads from lesser highways by different titles, etc. This subdivision and designation was to be accompanied, of course, by the erection of signboards, which would always tell the passer just where he stood with reference to adjacent points of interest or destination. We are glad to know that Mr. Bancroft's system is to be applied to a part of Los Angeles county, and on the basis of actual use there its claim for wider use can be established.

This fact reminds us that the State of California on one of its highways across the Sierra Nevada has erected monuments, and a picture of one of these appears in the adjacent engraving. It is on the Lake Tahoe State highway, which is entirely situated in El Dorado county, commencing at the junction of the Newtown and Placerville roads, a short distance easterly from Smith's Flat, has its terminus at a point on the east boundary line of the State of California, at or near



Granite Milestone, Lake Tahoe State Highway.

Lake Tahoe, traversing about 58 miles of mountainous country.

When this road was provided for by law it was specified that permanent monuments should be set for future survey reference. For the purpose of marking the total survey, milestones cut of granite at Folsom, of the size 18 inches wide, 6 inches thick, and 54 inches long, and indicating the distance to Placerville, were secured. The picture represents one of these stones erected for the camera. Since then they have been duly set in the ground so far as the road has been completed.

The other picture on this page gives another view on the Lake Tahoe State highway—being taken on the grade leading down to the new stone bridge at Riverton. The picture was taken during the construction of the bridge, which was recently completed, and now stands as a demonstration of the desirability of permanent road structures. At another time we shall show more in detail the construction of the bridge in the hope that it will win esteem for its class among those who have the building of bridges for California highways. Napa county has secured a fair fame for her stone bridges.



Lake Tahoe State Highway; Easterly Approach to Stone Bridge at Riverton.

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SAN FRANCISCO, NOVEMBER 12, 1904.

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The Week.

With snow fall in Connecticut and glorious sunshine in California, and with local interests and opinions contrasting as sharply as do the weather phases noted, a great national election has been quietly held throughout a country occupying one-eighth of the world's circumference; an overwhelming victory has been attained, and yet at no point was there a breach of the public peace nor question as to the finality of the decision concerning public policy thus quietly but forcibly declared. It is one of the greatest demonstrations of the intelligence and temper of the American people that the whole governmental power and policy can be safely handed back to the people each four years for approval or amendment. It is an incomparable tribute to the patriotism, the self-control and the humanity of the American people that, whether the result of the election should be long in doubt, as has sometimes been the case, or whether it is so overwhelmingly emphatic as to be visible to the world before the following sunrise, as it was this year, the behavior of the people is just the same—a loyal, quiet and altogether voluntary acceptance and abidance by the result of the will of the majority however and whenever that will shall become manifest. Such a reflection upon the stability of American institutions should make us all better citizens, and is, it seems to us, the most important of all the lessons of the election.

Passing this point of widest moment the next thought must be one of comfort and encouragement to all who have cherished the broadest views for the development and extension of the influence of the United States, that such aims are now the definitely declared policy of the nation. They have been loudly proclaimed and freely acted upon for the last eight years and they have been sharply arraigned by those who have thought other aims better than they, but the declaration of the American people rings clear in their approval and the immediate future will be as the past but more abundant. To the great West it means development and the upbuilding of colossal commonwealths which shall ere long be the greatest of the nation. It means the continued advancement of industries which the protective policy of the last decade has placed upon firm footing. It means a westward movement of population and capital, during the next few years, such as never before manifested. It is a time to take a fresh hold upon liberal policies in business and in production—only let such policies be sound and intelligent and nothing will arise which the profound wisdom and patriotism of the American people cannot easily adjust and align with the onward course of national affairs.

Speculative wheat is 2 to 3 cents better, while spot wheat is firm and unchanged. The only charter is one prior to arrival for wheat or barley at 23s 3d, but this is above spot rates. Two straight wheat, one mixed and one miscellaneous, including a lot of barley, are the cargoes cleared since our last—nearly one-third of a million dollars' worth in all. Barley is firm, unchanged and all desirable descriptions in good demand. Minor cereals are firm and of same values as before. Beans of choice grades are firmly held, but little is doing; there are many wet beans, which have to go through the driers. Bran is weak and middlings easy, with slack demand for both. More choice hay is arriving and it is weaker, while medium grades are rather firm. Beef, mutton and veal are unchanged; hogs are higher. Butter is demoralized, but shows signs of improving, although some fresh has to go to storage to keep from spoiling, while holders of old stock are pushing it out of storage into consumption. Some Eastern butter has been reshipped to the East. The fall demand of this market seems to have been overestimated — perhaps enough allowance for the fresh feed from abundant early rains was not made by dealers. Cheese is quiet and steady, receipts light and storage supplies working out. Eggs are being crowded away up, so that the fresh values can help the stale out of storage. In poultry, common old and small young chickens are neglected while choice large chickens, as well as good turkeys, ducks and geese, go well. Potatoes are no better, for while fancy go fairly well, there are heavy stocks of common which are dragging. Onions are higher. Apples are held about as before, with still more arriving from beyond State lines. There are heavy receipts of new oranges coming in this week, but the Australian steamer is expected to relieve the situation somewhat. Lemons are in light stock and firm. Dried fruits are in healthy condition, with considerable shipments by sea in various directions. Prunes are more firmly held. Raisin dealers are still holding old stock high and bidding low on new, much of which is complained of as damp. Almonds are in good demand; walnut shipments are heavy. In honey there is little doing here; 445 cases have gone to London, some of it believed to consist of recent shipments from Australia. Hops are very firm, with 31½ cents as the highest point noted here, though there is report of sales up to 45 cents for select at the East to brewers. Wool is strong, and reports of contracts for next year's clip at 2 to 3 cents above this year's prices. Evidently the sheep outlook is good. Alfalfa seed is scarce and it is doubtful if there will be enough to go around with the continued disposition to menace the alfalfa acreage.

It appears from current reports that, after all, the Placer county growers, to whose action against bringing more people to California we took exception last week, do not care to be placed in that category. The report is that at the first meeting a resolution was adopted which condemned in general terms the work of promotion organizations. Mr. Beard, of the Sacramento Development Association, asked permission to address the meeting last Saturday for the purpose of fully informing the members regarding the work of the association, and the result was complete approval of that work, expressed in a voluntary resolution. Whether the report be accurate or not, the action should be manifestly in that way. If there is something wrong, and we have no doubt there is in some of the phases of transportation, why not come out squarely against it? Some of our exhorters are so sly that they are more apt to mislead people than to lead them effectively. It is silly to knock the whole State when it is only a railway company you wish to hit.

Miss Alice Eastwood, from the Academy of Sciences, San Francisco, and acting under the auspices of Horticultural Commissioner Elwood Cooper, is employed at Sacramento upon the examination of all the trees and shrubs in Capital Park, with a view of naming them all botanically. They will then be designated by proper labels. Such determination and labeling should be done on all the parks owned by the State. At present there is sad remissness in this important matter

QUERIES AND REPLIES.

Walnuts—Steam for Phylloxera.

To the Editor:—I expect to set grapes between walnut trees on heavy clay loam 10 to 12 feet to gravel and water and wish to know proper varieties to put out. Some say not to transplant a walnut tree. Can they be grown from nut without grafting? An orchard near Santa Rosa is grafted on black walnut stocks and last winter the wind upset some and nearly blew them all over. It entered my mind that perhaps the English tops grew too fast for the roots.

Did any one ever experiment with steam to kill phylloxera in grapes? In Alaska we had steam to thaw the ground. A 10 H. P. boiler will run about sixteen points, I think; and if there is 25° between killing the vine and the insect, I believe it is practical, as one-half hour would heat the ground sufficiently, I think, and one man can do it with a portable boiler like that of a threshing engine.—Experimenter, Geyserville.

As to varieties of grapes for the Russian river country, you should certainly make personal inquiry among the different owners of vineyards as to the varieties which they find most satisfactory in bearing and in sale to the local nurseries. There are often local points of experience in that line which cannot be fully covered in general treatises on the subject.

It is the opinion of some growers that the walnut should be planted in the place where the tree is expected to grow, because it is thought thereby the root system is developed. One must remember, however, that probably .99 of all the walnut trees which are planted in commercial orchards are grown in nurseries and transplanted to the orchard, so that the theory that planting the nut in place is essential lacks demonstration. Against any possible advantage from thus planting the nut you must balance the difficulties. The danger to the young seedling is great, the difficulty in getting a full stand of trees and the cost of handling the ground until the trees occupy it are also considerable. We have not heard of such a case as you mention near Santa Rosa of the blowing over of the trees. That difficulty is certainly not often encountered.

Almost everything under the sun has been tried as a way to kill phylloxera by injections into the soil. Steam and various poisonous vapors have been quite fully tried. There is little doubt but that the application of steam in sufficient quantity and at a sufficiently high temperature to kill the insects would also injure the rootlets upon which it is established. However, if you are of an experimental turn of mind, it would be an interesting matter to investigate. In planting grapes you should, of course, look closely into the matter of planting upon resistant roots.

Hop Planting—Grape Growing.

To the Editor:—Will hops grow on the banks of Mark West creek in Sonoma county. The soil is very rich and gravelly loam suitable for hops and fairly good for prunes. It occurred to me that since canker worm and borers were destroying the trees very rapidly and prunes being unprofitable I desired to raise hops among the trees for one or more years and then destroy the trees and continue the hops. What is your advice? I have ten acres of the same soil I wish to plant to grapes. Do you advise wine or table grapes; if wine grapes, what variety; if table grapes, what variety? I have in view Flame Tokay, Cornichon or some other kind such as Thompson's Seedless. Which two do you advise? Will the Cornichon bear as much as the Tokay? Will rain hurt Cornichon as much as the Tokay?—Owner, San Francisco.

Hops grow splendidly on proper soil on the banks of Mark West creek, and it is reported that one man who bought an orchard there pulled out the fruit trees and put in hops made enough on two crops to pay for the property. You can get plenty of information about hop growing by conference with growers in near that district. We do not think for a moment that it would be worth considering to put hops among fruit trees, trusting later to pull out the trees. If we were sure we wanted hops we should make a clean sweep and put hops in in the best possible manner. It is impossible in a letter to answer all the questions which you ask concerning grapes. Presumably, popular wine grapes are most promising in your district, and we are more inclined to that opinion from the fact that so large an acreage of Tokays and other table grapes has recently been planted in the San Joaquin and Sacramento valleys adjacent to shipping points for the overland trade

and otherwise possessing advantages in growing table grapes. The Cornichon is a tougher grape than the Tokay and will stand rain with less injury. The Tokay has the reputation of coloring splendidly in the Santa Rosa district. Inasmuch as Thompson's Seedless is primarily a raisin grape, although valuable also for shipping, it would not generally be desirable to plant many in the coast valley. The supply in the interior valleys is ample and the grower has the choice of different uses for the grape.

Late Budding—Vegetable Growing.

To the Editor:—I delayed my budding peach seedlings till those cold rains set the bark. I have been waiting for this warm weather to start growth, but it doesn't seem to. Most of the trees I can bud by cutting enough wood with the bud to make it stiff enough to push in. But I fear the buds will not take. What shall I do? (1) Graft towards spring? (2) Spring bud, or set the seedlings this February and bud them in the fall or late summer, or something else?

I had a dozen roots of Crimson Winter rhubarb, which grew finely the fore part of the summer. They then threw out seed stalks most profusely. A neighbor, who is an old gardener from the East, told me to cut the seed stalks off, which I did, about the time the seed on the oldest were ripe. From that time on I kept the seed stalks cut out. Then half of my dozen died, and the rest continued to go to seed very abundantly. The leaf stalks are small. What killed them? How can I get a crop of good-sized leaves?

Last winter I wanted to raise 20,000 tomato plants, but, just as they were ready to put into peach boxes, they turned yellow and then black, and half of them died. This occurred about the time of the prolonged rains. We had put about 1 foot of manure under them with 4 inches of soil on top. What caused them to die?

Will carrots, parsnips, beets, cabbage, turnips and salsify mature if planted now in this section?—Beginner, Placer county.

You cannot make budding succeed on deciduous trees as late in the season as this, because they ought soon to become too dormant. You can graft, as you say, towards spring and set buds in June on any shoots which come from stocks on which the grafts have not yet taken. You can also plant out the seedlings as you suggest and bud in early next summer, cutting back by degrees as soon as the buds have taken well and in that way force a growth upon the bud the first season.

As for Crimson rhubarb, our plants acted the first season much as yours did, showing a great tendency to go to seed, but as they were kept well watered they did not die, but pulled through. This year they are very strong plants, have neglected seed bearing and are making an abundance of large, leafy stems. Probably your trouble was in the slack supply of moisture during the first season.

Your tomato plants in the seed bed were killed by the excessive heat generated by the manure. You should have had a foot of soil on top of the manure instead of 4 inches, or have used less manure.

Whether the vegetables you mention will mature satisfactorily if planted now will depend upon the temperatures with which they will have to contend during the coming weeks and months. On warm, sandy soil most of those you mention will probably make satisfactory spring vegetables, but in frosty places and on heavy soils likely to become water soaked during the winter rains they will probably fail.

Moles in Alfalfa.

To the Editor:—Soon after the September rains I sowed about a half acre of alfalfa. Soon after what seems to be a mole began work. I can never see it at work, and it does not appear above ground. It travels very fast and does much damage. If it was a gopher and appeared above the ground I could trap it. How can I get rid of it?—Inquirer, Gilroy.

Judging from your description you have to deal with the mole and not with the gopher. The injury done by the mole will consist in the displacing of the ground because the mole does not live upon roots to any extent, but rather upon worms and insects. You can catch a mole with traps much as you do gophers except that you have to open the runway and go down far enough until you find the permanent run. They have two kinds of runs—one about a foot or so below the ground which they use for some time; another quite near the surface which is used for temporary prospecting for worms and insects. If you get a gopher trap well set in the permanent run you are pretty sure to get the mole or you can get a special mole trap which works from the surface. Another way is to watch for the mole, because when making shallow runways he usually moves the surface of the ground and then you can throw him out with a shovel and dispatch him there. You cannot easily poison moles because they do not live upon the vegetables generally employed to carry the poison to the gopher.

Potato Growing.

To the Editor:—Last summer I purchased ten acres of sediment land in Santa Clara county. I contemplate planting most of this to potatoes. Can you send me any bulletins of your experiment station on this subject? Also I would consider it a favor if you would suggest best time to plant; also if advisable to do so without irrigation. The land is below the frost line.—Owner, Chicago.

Our experiment station has no publications relating to the growth of potatoes except on the destruction of the potato moth and its larvæ, a very common pest of the potato, and a copy of this will be sent you. The ways in which potatoes are grown here are discussed fully in our book on "California Vegetables." The time of planting potatoes in California depends upon the locality. The plant will stand some frost and on the uplands in the Santa Clara and Alameda valleys early planting is practiced. How soon it would be safe to plant on your place depends entirely upon how heavy frosts are likely to be encountered. February planting is safe and desirable where only light frosts are to be expected. April and May planting are quite successful on such moist lands as you describe, and you ought to be able to mature a good crop of potatoes without irrigation providing the land is plowed and harrowed deeply early in the season, to prevent evaporation, and then given a shallow working at the time of planting. It is practicable to use irrigation in connection with growing potatoes, but the water should be applied some time before maturing the crop for fear of starting an undesirable second growth.

Nematode Worms.

To the Editor:—Nematode worms are so bad that we will have to give up raising tomatoes in our hot houses this winter, it being too late to change the soil for a crop next spring. Is there any crop we can raise there this winter that the nematode will not touch, either cucumbers, chili peppers or beans? We can raise them if the nematode will not touch them. By growing one of the crops above mentioned on the soil for this winter and spring will the soil be freed from mealy bugs and in shape for tomatoes next year, or will I have to change the soil?—Forcer, San Bernardino.

The nematode worms affect so many plants that we are not aware that the immune plants have been definitely specified. It is, however, our opinion that beans would be safest to try of those you mention, and they offer most in the way of recuperation of the soil by the decay of their roots, in view of their nitrogen-gathering ability. As to whether the mealy bugs will disappear during a year's cropping with beans is also an uncertain question, and must be determined by experience. If, however, close watch of the bean plants does not exhibit them you may presume they are repressed for the time being.

Resistant Vines—Early Fruits.

To the Editor:—Kindly inform me through your valuable paper what are the resistant grape vines, and are they slower in growing and bearing than ordinary kinds? Which is the earliest of the cherry, apricot, peach and apple?—C. H., Santa Cruz.

Broadly speaking, a resistant vine is one whose roots resist the minute subterranean insect called the phylloxera, and they are grown as stock on which to graft other varieties, although effort is being made to secure a resistant vine which shall also be a producer of good fruit without recourse to grafting. Some resistant vines are slow growers, others are strong and rapid. Of fruits commercially grown, the California Advance is the earliest cherry; the earliest apricot is the Newcastle; the earliest peach is the Alexander; the earliest apple is the Early Harvest.

Shy Bearing of Washington Navel.

To the Editor:—What is the reason that our Washington Navel orange trees in this vicinity do not bear well? There are several orchards, to my knowledge, all of Washington Navels, which get the best of care and are favorably located, that are apparently thrifty and blossom profusely every year, but at the end of the season either have none or very few oranges on, while a neighboring orchard of other varieties not getting as good care are profuse bearers year after year. The situation seems to be getting worse year after year, and instead of an increased crop it seems to decrease. If you can offer any cause for this condition, and a remedy, it will be greatly appreciated.—Grower, Oroville.

We cannot tell. The Washington Navel is usually a free bearer, and what prevents setting in this case we cannot tell. As the Navel has naturally an imperfect blossom, it is presumably not dependent upon pollination, but the failure to bear must be attributed to some adverse condition resulting from the growth habit of the tree. Suppose you try a little less care and attention and see what the pinch of poverty will do.

WEATHER AND CROPS.

Report of the U. S. Weather Service for Week Ending November 7, 1904.

Alexander McAdie, Forecast Official and Section Director.

Sacramento Valley.

Cool and partly cloudy weather prevailed during the week, with fogs in the mornings. Light rain fell on the 1st. Farm work is progressing rapidly and a large acreage of wheat, barley and oats is being planted. Early sown grain is in excellent condition and making good growth. Green feed is abundant and of superior quality. Stock are in good condition. Olive picking and packing are progressing and walnut harvest continues. Oranges are maturing rapidly, and it is reported that picking has commenced in the vicinity of Oroville and that some small shipments have been made. Prospects are good for a large crop.

Coast and Bay Sections.

The weather was nearly normal during the week, with light rain in the central and northern sections and frequent fogs along the coast. Rain would be beneficial in the southern districts, especially for pasturage. Plowing and seeding are progressing in all sections and a large acreage of grain is being planted. Early sown grain is up and making good growth. Grain feed is abundant and growing rapidly in the central and northern sections and is fair in the south. Stock are doing well. Corn picking and potato digging are in progress. Oranges at Cloverdale are in good condition and a large crop is expected. The olive crop in Sonoma county is unusually large. The second crop of figs was injured by rain. Apple harvest is progressing.

San Joaquin Valley.

Generally clear and cool weather prevailed during the past week. Plowing and seeding continue, but the ground is getting quite dry for this work. Raisin curing is nearly finished for this season; the cool weather for the past week has caused slow progress. Olives are doing well. The grape crop is about harvested. Orange picking is progressing and a large crop of good size will be harvested. The first carload of oranges was shipped from Porterville November 1st; the fruit was of fine color and good size. Green feed is plentiful and stock are healthy and in good condition. Irrigation water is abundant.

Southern California.

Clear and warm weather prevailed during the week, with light winds and occasional fogs in the coast districts. The soil in most places is too dry for working, though some dry plowing has been done. Walnut picking and shipping are progressing and will probably continue during the month; the crop at Anaheim is considerably below estimates and the nuts are of small size in many orchards. Oranges at Upland are maturing earlier than usual and the orchards are in excellent condition, mainly owing to liberal irrigation; the first shipment was made from Highland on the 4th. Raisins are nearly all in the packing houses; the yield is not remarkably heavy, but the raisins are of superior quality. Apple picking is nearly completed.

Los Angeles Summary.—Vegetation in the northern section was started by September rains, but checked in growth by succeeding dry weather. Orange crop ranges half to full of unusually fine fruit, which is coloring rapidly.

Eureka Summary.—Grass growing rapidly and stock are in excellent condition. Plowing and seeding when weather permits. Apples practically gathered and heavy shipments continue.

Rainfall and Temperature.

The following data for the week ending 5 A. M. Wednesday, November 9, 1904, are from official sources and are furnished by the United States Weather Bureau for the Pacific Rural Press:

California Stations.	Total Rainfall for the Week	Total Seasonal Rainfall to Date	Total Seasonal Rainfall Last Year to Same Date	Average Seasonal Rainfall to Date	Maximum Temperature for the week	Minimum Temperature for the week
Eureka	.56	5 71	6 13	7 08	64	44
Red Bluff	.00	9.13	1.66	3 09	72	44
Sacramento	.00	5.50	.69	2 21	68	42
San Francisco	T	7.53	.72	2 56	72	50
Fresno	.00	5 04	.09	1.27	72	42
Independence	.00	.47	.42	.74	72	32
San Luis Obispo	.00	4.59	.06	2.84	90	44
Los Angeles	.00	1.13	43	1.32	92	48
San Diego	.00	.16	.07	.84	92	52
Yuma	T	.81	.66	1.04	86	52

AGRICULTURAL SCIENCE.

Education and Agricultural Advancement.

PART I.

By Hon. P. J. Shields, Superior Judge, Sacramento, at the State Farmers' Institute at Berkeley.

It is not my purpose to-day to make an argument upon the wisdom or necessity of education in the science and practice of agriculture. I deem that point in our crusade to have been passed, and am resting in the confidence that our people have come to realize that we must extend our present system of agricultural education, enlarge it to meet our necessities, adapt it to our various conditions, and in its finish, its variety and its perfection make it coextensive with its great social and industrial aims. I indulge the hope that the seeds of that great purpose have already been sown, and that we are now but awaiting the harvest. My purpose, therefore, to-day is but to hasten the accomplishment of this purpose, to add new zeal to the cause of procuring for our agricultural people that education which will vastly improve their happiness and of obtaining for our State that class of training for her people which will vastly increase her wealth and solidity. Believing that we should carry our intention in this matter into immediate execution, it is my hope to-day to call the attention of our people to some significant facts which I do not think have heretofore been sufficiently pondered, demonstrating its value and the dangerous degree to which we have neglected it.

A Statistical Statement.—I will first call attention to our true position in agricultural America, that our complaisant self-satisfaction may be somewhat shaken, and that we may realize the degree to which our resources are undeveloped. It might be well for our State builders to realize that while we have been boasting that the total value of our farm products for the year 1899, as shown by the last census, was $131,000,000; that "bleak" Minnesota, with little more than half our area and with only a slightly greater population, produced a harvest valued at $161,000,000. The area of Illinois is little more than one-third that of California, yet during that year her contribution to the wealth of the nation was $345,000,000. While the 158,000 square miles of California were producing this harvest of $131,000,000, the little State of Iowa, with her 56,000 square miles, produced the princely sum of $ 65,000,000. During the same time the small State of Indiana yielded a golden harvest of $204,000,000, and Ohio, possessing but one-fourth of our area, realized as the price of her products the sum of $257,000,000. New York, which we think is a large State, has less than one-third the area of this State, yet her contribution to our stores during the year 1899 was nearly double that of California. I need not carry this comparison farther. We point rather boastfully to the value of our gold output—$17,000,000—a crop that is not an annual, and which, once produced, leaves a barren soil. The dairy cows of little Iowa can match that and have a surplus of $10,000,000 besides, and that is an annual crop and one the producing of which makes little drafts upon the soil, but leaves it a rich and fertile heritage to destiny. Our fruit crop, which is our greatest pride, in 1899 was of the value of $28,000,000. While we were heralding this fact to the world, the dairy farmers of New York produced from their herds a sum just twice as large, a fact which should give us a lesson in humility and excite in us a determination to do at least as well with our vastly greater advantages. The oat crop of Wisconsin is equal to the product of our gold mines, her dairy product to our fruit crop, and from her small area of what we have been inclined to regard as pine, barren land she produced a harvest exceeding ours by $26,000,000.

I will not stop to analyze these figures nor to adduce reasons for our disproportionate production. Many of these are apparent and are unavoidable, while others, if permitted to continue, will constitute a reproach. One fact not wholly disconnected with this condition is that in those States splendid schools and colleges of agriculture are maintained, and that these magnificent harvests are largely the product of the trained intelligence of their graduates.

What California Has Done.—I have made the above comparisons for the purpose of calling the attention of our people to the fact that while California is a great State she has not yet risen to her proper place among the States of the Union, and that if we continue to neglect modern aids to progress we will suffer a permanent disadvantage.

That we have inexcusably and—as the results show—very unwisely neglected legislative aid to agricultural development is a fact which it takes little inquiry to establish. Farmers' institutes have been accepted as one of the most useful agencies for agricultural instruction, bringing to the very doors of the farms the latest methods and most economic practices. Prior to 1903 our Legislature made no provision whatever for such instruction, but left it to the already overburdened general university fund to make such allowance for their support as it might. While we were guilty of this neglect, the States which were later to so greatly excel us in agricultural products were giving to their institutes tens of thousands of dollars. In 1903, while we gave in aid of institutes for the first time $6000, Indiana gave $10,000, Wisconsin $12,000, Ohio $16,750, Pennsylvania $17,500, Minnesota $18,000, Illinois $19,650, and New York $20,000.

A Lesson From Other States.—Agricultural research has been a source from which the most progressive of our States have drawn to their incalculable advantage. It has been largely from their experiment stations that the lessons have been learned which have made the corn crop of Illinois, the meat of Iowa, the dairy products of Wisconsin and the wheat of Minnesota of such great value. These and most of the agricultural States of the Union have splendid experiment stations and farms with which our meager equipment cannot be compared, and have annually made rich provision for their support, while we have strangely neglected ours. Take the latest available figures—those for 1903—as an illustration. During that year we expended in additions to our experiment station the nominal sum of $719. During the same time Kentucky expended $14,700, Mississippi $10,200, New York $14,800, Utah $18,500, and Missouri $81,200. Such a State as Montana expended nearly $7000, and West Virginia over $9000. If we leave to these figures to determine whether or not we have kept pace with agricultural progress, the answer would be no—that we had clearly failed in the performance of a plain duty. Believing that this is no occasion upon which to spare our feelings or to suppress the truth, I will carry the comparison farther, making more clear the extent and culpability of our neglect. I need not go back to the years during which the other States have been purchasing splendid farms, erecting magnificent school and college structures, constructing model farm buildings, purchasing complete apparatus, and acquiring splendid herds of live stock, while we have not moved at all—have housed our college in cramped and meager quarters, and have required our college management to teach agriculture without adequate appliances, without a farm or farm crops or farm animals. We will go back but three years, years during which our college has been forced into a garret and required to overflow into a shed, and we will see what other States have been doing for their colleges and for agricultural progress. I have no time in which to name all the States which have written their names high on this record of duty well done, but will only mention such a number as will serve my comparison. In 1901 such States as North Dakota, South Dakota, Idaho and Indiana gave $50,000 for additions and improvements to their agricultural colleges, at the same time giving them liberal support. Minnesota gave $90,000, Missouri and Michigan over $100,000 each, little Washington nearly $120,000, and Kansas over $200,000. In 1902 Maryland gave $33,000, Massachusetts $35,000, Florida $45,000, Mississippi $89,000, while Iowa provided for an ad valorem tax designed to raise $600,000 in five years, and gave $135,000 in addition for use during the two years following. In 1903 Iowa gave another $55,000; Wyoming gave State property of the value of $100,000; Kansas provided $240,000 for use for the following two years; Nebraska gave $100,000, Montana $215,000, and Pennsylvania $250,000. These appropriations are not regarded in those States as expenses, but rather as splendid investments, and I am sure that the census returns showing the vast wealth produced in those States by their agricultural population proves this theory to be correct.

What California Should Do.—The good work which has been done by the dean and faculty of our college has been in the face of discouraging neglect and at the price of sacrifices which they never should have been called upon to suffer. I will not here attempt to place responsibility for these conditions. It is sufficient to know that the cause of agricultural education in California has reached a crisis, and that the disposition is general to do something to place it on a new footing. To emphasize that feeling, and in the hope that it may contribute something to the influences working for prompt action, I will call attention to some of the tangible benefits we may expect from a more progressive policy. When we compare the total value of all our farm products—$131,000,000—with the $365,000,000 crop of little Iowa we ask, How can we equal it? I might indicate some certain directions in which it can be excelled. Our wheat has steadily deteriorated in quality until a general movement throughout the State for its improvement has been found necessary. By reason of this inferiority our millers have been compelled to import from such States as Washington, the Dakotas and Kansas a wheat richer in gluten to blend with our own to supply its deficiencies. This imported wheat is easily of a value of ¼ cent per pound greater than ours. Better methods of selection, care in developing varieties, knowledge of culture and planting, may reasonably be expected to raise our crop to an equal value. If under those conditions our crop should not be increased in quantity a single pound, its annual value would be increased over $1,250,000. If we increased the quantity by no more than one bushel per acre, the increase in value would be over $1,500,000.

A Few Opportunities.—Our prune crop for 1902 was nearly 200,000,000 pounds, much of which was of small size and poor quality, due to unintelligent selection of trees, of soil upon which to plant them, and of the methods by which they were cultivated, harvested and prepared. The value of this crop can easily be raised. By the adoption of the best methods now practiced by our more intelligent orchardists, its value would realize a certain increase of more than 2 cents per pound, which would mean an annual addition to the value of our harvest of $4,000,000.

The poultry product of this country is in the aggregate one of the most valuable of the nation's varied agricultural crops. In such States as Iowa and Ohio its value reaches an enormous sum. With us it is relatively much less. Without entering seriously upon this subject, it is sufficient to say that our poultry is not well bred nor well selected, and that its care and management is not scientific. Estimating that on each of the 72,542 farm homes of this State there are on an average of about 100 fowls, we have probably 8,000,000 egg-producing birds. In such hands as those of graduates of the agricultural colleges of Iowa and Wisconsin, these fowls would be substituted by highly specialized, carefully selected ones, cared for and fed according to correct principles. Under such circumstances the earning value of each of these fowls should be increased by as much as $1 per annum, resulting in an aggregate yearly improvement of $8,000,000 in their productive value. This is not an extravagant estimate, and thus we see that from this one humble source we may be enabled to place our foot firmly upon a rung of the ladder leading to Iowa's agricultural eminence.

An equally available source of immediate profit resulting from better training and better methods is in the matter of our dairy products. We have in California about 290,000 cows kept for making butter upon farms and in dairies. Statistics—which to preserve any remnant of our pride we must claim to be inadequate—show that their average yearly butter product is but 110 pounds. That of the whole United States is as high as 156 pounds, and if our cows were only brought up to that standard, without increasing their number, their butter producing value at a low estimate would be raised $2,668,000. If they were raised to the 250-pound class common to Eastern dairy sections, their annual value would be improved $8,120,000. If by the selection exercised by the dairymen of Holland, by which their cows are made to average 310 pounds, our cows could be equally improved, their producing value would be increased annually $11,600,000. These figures are exclusive of the tens of thousands of cows kept for giving milk or used in the manufacture of cheese. They take no notice of the incalculable value which would result from the increase of the herds, nor seek to even suggest the great improvement in numbers certain to result from the enthusiasm and prestige which would follow the improvements I have generally referred to. But why particularize further? These matters are only details of a vast agricultural system to which the touch of better training will impart a wholly incalculable improvement. No words can indicate what reclaimed, what irrigated, what fertilized California can produce when the power of science has been imparted to her people.

(To be continued.)

THE VETERINARIAN.

For the Better Health of Live Stock.

Dr. Charles Keane, D. V. S., State Veterinarian, according to the Sacramento Union, is busily engaged in formulating a State Society of Veterinary Surgeons, much on the same plan as the California Medical Society or the State Board of Health, which he declares will be of the greatest benefit to the stock raisers of the State.

In an interview recently he said: "I have had this plan in mind for some months and have discussed it with the various veterinarians I have met in my travels through the State, and they all agree with me in believing that it will be of the greatest benefit to the cattle interests of the State of anything that could be devised.

"The fact is that there is no uniformity in county cattle laws, a thing much to be desired, and to achieve such an end we must get together for discussion, education and mutual benefit. To attain this I am endeavoring to form a State society that will meet either annually or semi-annually for consultation and discussion.

"At these meetings papers on subjects of interest to the cattle industry will be read and discussed, and we will, after the organization proposed, endeavor to secure uniformity of laws which will prove beneficial to all.

"I have addressed letters of invitation to all the county veterinarians in the State, and in those counties which are not provided with such an official I have requested the Board of Supervisors to designate some veterinarian to act for them."

The letter referred to sets out the doctor's views as outlined above, and points out that the idea is to erect a permanent organization similar in character

to the California Health Association. Such an organization of veterinarians, it is set forth, will be of great benefit to the counties, the State, the membership and the cattle industry. The purpose of the society will be to encourage the study of preventive medicine and hygiene, to better the efficiency of official veterinarians in California, to encourage esprit de corps among the same, and to protect the State of California and its live stock industry as fully as possible against disease.

The doctor has fixed the date for the initial meeting of the proposed society for December 16th next, and at that meeting will see to it that valuable papers are presented for discussion drawn out on sanitary topics. He will make arrangements for a place of meeting and for the reception and care of all delegates. Dr. Keane says:

"The fact is that this State is too large and its cattle interests are too diversified for any one man to begin to attend to them alone, and it is for this reason that I am calling this meeting. Stock raisers do not seem to realize that cases of cattle diseases are continually making their appearance in various portions of the State at one and the same time, and that no official can be in Siskiyou and Los Angeles counties at one and the same time.

"I am extremely desirous to stamp out the Texas fever in this State altogether; but I realize that it can not be done by individual effort, and I am desirous of getting all the county veterinarians interested in the work, so that we can work together in some sort of system that will insure better results all around."

FRUIT MARKETING.

The End of the Prune Association.

The California Cured Fruit Association, through its liquidators, is rapidly approaching a final windup of its complicated affairs, says the San Jose Mercury. J. R. Welch, the attorney for the liquidators, has just settled the case of the California Cured Fruit Association vs. the J. K. Armsby Co., and has also accomplished the collection and satisfaction of the several judgments obtained and held by the Association against the California Packers' Co. In addition to these two important settlements, the debts of the Association and all claims against it have been fully paid. All danger of assessments against its members have been thus avoided. The only duties devolving upon the liquidators is to distribute the remaining funds among its members and then finally dissolve the Association.

The history of the last two years of the troubled life of the California Cured Fruit Association supplies an interesting chapter to our local legal lore. The Association was organized in the year 1900 with large assurances of success. Nearly 80% of the fruit growers of California delivered their fruit to the Association during that year. The hopes and promises of its organizers and officers were not, however, realized, and great dissatisfaction among the growers resulted, in consequence of which only a small percentage of them delivered their fruit to the Association during the second year and none at all during the third year of its existence. In the fall of 1902 the dissatisfied growers held a meeting and appointed a committee to take steps toward the employment of counsel with a view to dissolving the Association. This committee selected J. R. Welch as the legal adviser of the growers and that gentleman, with his accustomed thoroughness, took up the difficult task of unraveling the tangle. After a careful study of the law relative to such associations Mr. Welch advised the growers that the special act under which the Association was organized provided a method for taking charge of the Association and winding up its affairs. At the written request of 2580 growers, constituting more than two-thirds of its membership, Mr. Welch undertook the dissolution of the Association. It was a fight from the first involving, as it did, new constitutional and statutory problems as well as all the forms of legal obstruction which are known to the law. The liquidators have won every important suit and are now practically ready to pay over to its members the remaining funds and bring the troubled life of the California Cured Fruit Association to a close.

THE FIELD.

Dakota Vetch or Spanish Clover.

To the Editor:—I send you by mail a plant which grows everywhere here as a weed—coming on after the crops of wheat, oats, barley, etc., are harvested; also growing in pastures along the roads, etc. It blossoms and seeds profusely. It seems to be one of the leguminous plants belonging to the bean family. It grows practically without moisture—as I say coming on after the hay and grain crops are off. Stock eat it (particularly cattle) if grass is not abundant. The roots of the plant when growing are covered with bacteria nodules as the clovers are, and hence, I presume, are valuable as a nitrogen gatherer.

Is it not possible that in this plant we have one that is valuable for supplying nitrogen to the soil, because of its capability of withstanding drouth? The winter-growing leguminous plants are good in their place, but this seems quite readily to take care of itself by scattering its seeds profusely and coming up late in the spring and growing and maturing in about the same manner and time as the tar weeds.

I do not remember seeing this plant anywhere else except here, but that is more likely to be because my attention was not called to it than that it was not present where I have traveled.

It seems to me that it would be worth while for some of our experiment stations to give some study to this plant, for it may be valuable for its nitrogen gathering qualities and worthy of introduction and use for that purpose. It is not a noxious weed—in any way being easily killed out by cultivation. It seems to grow more abundantly than formerly in my fields after the crops are off. L. F. Bassett.

Redding.

The plant is the Dakota vetch (Lotus Americanus), commonly known as Spanish clover, and widely distributed over the State. It may serve a good purpose, as you suggest, but for the enrichment of orchard lands, at least, a winter grower with more ample bacterial activity than this plant shows is to be preferred. In the Pacific Rural Press of July 16, last, there is some account of the uses of the plant. Its chief value seems to lie in furnishing some feed for stock during the latter part of the dry season.

About Mushrooms.

This is the time of year when mushrooms are in market. The danger of the deadly and the wholesome being mingled in the same lot is always present. Alice Eastwood of the botanical department, California Academy of Sciences, has made a study of mushrooms, and in a recent communication to the press says: "The danger was forcibly brought to me recently through the inquiries of some friends who telephoned to know how to cook the mushrooms which they had bought at a vegetable market in the city, and which the man assured them had been eaten by himself with impunity. Upon asking questions concerning the character of the fungus and learning that the under side of the cap was white and that at the base of the thick stem there was a deep cup into which the stem was inserted, I told them to avoid it as they would the plague, and to bring to me a specimen for examination. The specimen proved to be the most deadly amanita known, the species which was responsible for the deaths of the Pastini children several years ago, and of which we have specimens in the herbarium of the California Academy of Sciences preserved in alcohol.

"All mushrooms that are white on the under surface are to be regarded with suspicion, the wholesome species being at first pink and later changing to dark brown or black.

"It may be interesting in this connection to inform the public that the puff balls which are frequently common on the hills are most delicious and nutritious when cooked. They must be collected before they are ripe, at the time when they look like cream cheese when cut. They can be cooked in any of the ways in which mushrooms are used and are perfectly safe, for there is no known puff ball that is poisonous."

SHEEP AND WOOL.

A Great California Merino Flock.

The editor of the American Sheep Breeder recently had the pleasure of inspecting the famous Bullard flock of Merinos at Woodland, California. This great Merino stud has been so long in the eye of the American sheep keeping public that a review of its history, achievements and present status will be read with absorbing interest by all admirers of high class Merino sheep. Its fame is not confined to this country alone, where for a third of a century it has been recognized as one of the foremost collections of Merinos, but has long been equally as well esteemed by Merino connoisseurs in Australia and Tasmania, both nurseries of the greatest of this great basic breed of fine wool sheep.

History.—The Bullard flock was founded by the late Frank Bullard forty years ago, having its start in the purchase of a dozen very fine Spanish ewes and a superb ram of the same breed, from the late Milton Dale, a California breeder of note at that period. A little later Mr. Bullard purchased thirty-five typical Vermont ewes and a ram from Mr. Kirkpatrick. Up to this time he has a novice in the breeding of fine wools and had not seriously thought of entering the lists for Merino honors. But his pretty wool bearers throve under his care and he gradually grew fond of them. A man of quick perception, clear forecast and fine judgment, Mr. Bullard saw great possibilities in his aristocratic Merinos and became ambitious for the ownership of as good a flock of them as the country afforded. The most noted California flock of Merinos of that day was owned by Mr. Strowbridge of Haywards, and thither he went for advice and more sheep, and he got them—a beautiful bunch of high born Spanish ewes and the great rams "Vermont" and "Longwool." From these he bred the greater "Longwool Jr." 666, who was four successive years the sweepstakes ram of the Pacific coast. From this time forward it was flock building extraordinary at Woodlawn farm. There were greater heights to climb and new honors to be won, and Frank Bullard, seized with an ambition as great as himself, easily compassed both. He achieved his greatest honor up to this period by filling the order of a famous Australian breeder for fifty ewes and rams. It was a hard draft on his breeding stud, but he had learned the art of breeding so successfully that their places were soon filled. Hard after this big sale came a magnificent draft of rams from the great Shattuck stud and flock building at Woodland was carried to higher levels. The fame of the Bullard flock grew apace. Great sheep of wondrous conformation and fleece came by the dozen and score at the behest of Frank Bullard's mating, and the Bullard stamp type was on all of them. They were Merino, pure and simple, but they had outgrown the Spanish wrinkles and size without the loss of a 1000th fraction in fineness of fibre or density of fleece. They had exchanged the little crooked legs and gummy exterior for well spread legs of strongest bone, and had taken on heart girth, brisket spread of beam, strength of scrag and neck, breadth of back and loin and a show of quarters and twist like a Shropshire. And still they were Merinos—mutton Merinos—big, magnificently covered and with the carriage of woolly kings and queens. It was a marvelous transformation wrought by a great breeder, along pure Merino blood lines—a new creation—and Frank Bullard's genius and alfalfa fields were behind it. No Merino sheep in the country could show such size, such perfection of form, or greater evenness and fineness of fleece than the Bullards. That the Bullard flock should have heraldry and a fame as fair and great, was not surprising. It was the creation of a master breeder and fashioner of sheep—a great, good man, whose singleness of purpose and simple, childlike honesty was impressed on all his work. There was no jugglery in Frank Bullard's nature and there could be none in his life work. A nature so lofty, pure and manly could not descend to the low level of the sheep breeding and sheep dealing trickster. His flock building was as transparent as his great and simple nature. To breed and rear superior sheep of superlative fleece was the fulfillment of his ambition, and right royally did he strive and achieve in this noble work. It was a great destiny to create a Merino flock that had no peer on the California coast or in the country either in honest breeding or greatness of animal development. Two year fleeces were not needed to give size, form and presence to the Bullard sheep in the eyes of buyers. They were and still are scrupulously shorn twice a year and can well afford to stand on their shape. No Bullard ram or ewe ever disappointed a buyer, for none have longer or stronger blood lines. For three decades Frank Bullard sold ewes in dozens and scores to found new flocks or reinforce old ones, and rams to head flocks in California, Oregon, Washington, Idaho, Montana, Wyoming, Nevada, New Mexico and old Mexico, Texas, Arizona and Australia, and never a word of disappointment or complaint came back from the buyers. Bullard sheep are pointed to with pride in every flock where they have served and their sale horizon never grows narrower. Mr. Bullard got a second draft of Shattuck rams and while working wonders with them in the flock and at the zenith of his fame as a breeder, suddenly laid down his armor and passed from the scene of his breeding triumphs into dreamless sleep, loved, honored and mourned by all who knew him. It is ten years since this good man and great breeder passed to his reward, but the Woodland flock remains a monument to its noble founder and a compliment to the skill of his estimable widow and sons in its further up-building.

The Present Flock.—The sheep and flock are larger than when left by the founder and the fleeces every whit as fine. The two elder sons, Edwin and Edgar, who have have personal direction of the selection, mating and rearing of the sheep since the death of their father, have shown in marked degree the rare gifts that distinguish that eminent selector and breeder of fine wool sheep. They have made repeated visits to the leading Eastern flocks of Williamson, Gambler, Dean, the Helsers, Cook, Perkins, Peck & Sons, Blamer, Bell, Wood & Son, Webb, Lincoln, Burnham Bros., Harriss, Shaw, Crittenden and others, selecting with nice discrimination such stock as would, in any way or measure, add strength to the home flock either in body or fleece, and the 1600 breeding ewes of the Woodland stud are among the finest I have ever seen. In point of size, they are the largest Merinos I ever had the pleasure of inspecting — notably, surprisingly large for ewes of pure Merino blood. Scores of them could be carried up to and above 200 pounds by a moderate feed of

grain. A full third of the big flock could be made to average 160 to 170 pounds and the remainder an average of 125 to 145 pounds. These are great Merino weights, and all the more remarkable because in attaining them the sheep have lost none of their distinctive Merino character, wrinkles alone excepted. They have the density and massiveness of the Merino fleece and its fineness of fiber with a distinctively Delaine staple, an achievement in Merino breeding very rarely compassed. Indeed, I cannot better characterize this famous flock than to call the sheep big Delaine-Merinos carrying the purest Spanish blood. In breeding up this Woodland flock, both the elder and younger Bullards have ignored the breeding fads of their day, and held resolutely to three cardinal principles, viz.: great size, plain bodies and dense fleeces, and to realize how wonderfully they have succeeded one has only to visit Woodland and see the remarkable change they have wrought in Merino flesh, bone, muscle and staple. And the startling effect of the change suggests to the visitor other and greater possibilities of Merino life of which the great mass of Merino breeders have never dreamed.

What It All Means.—That the Bullard sheep have achieved seemingly abnormal size without loss in density and fineness of fleece means simply this, nothing more or less: The breeders of this flock long ago found out that the law of selection in sheep breeding will work wonders when intelligently applied, and they had the discrimination to take advantage of the fact. Supplementing the exceptional breeding skill of the Bullards is the matchless California climate and the alfalfa fields of the Bullard farms. This combination accounts for 30% of the remarkable growth of the Bullard. The winter wheat fields, alfalfa meadows and a profusion of filleree give rich and succulent feed the winter through and clover and alfalfa crown the summer with the finest of grazing. In the stormy days the sheep and lambs take to the ample lambing barns filled to the limit with the finest fibered alfalfa hay I have ever seen. The lambs have nothing to do but to eat, sleep and grow.

Growth is Never Arrested.—From babyhood to maturity it is uninterrupted development on normal lines. The ewes may lamb in any of the big barns from December to April, the month being immaterial under the favoring conditions of climate and feed. To breed for and rear big sheep is a simple and sure process with the Bullards, who know the deep secrets of selection and mating and leave generous mother nature to do the rest.

The Ram Flock is a Revelation.—My first inspection of 100 yearling rams was one of the startling surprises of my Western tour. They were all yearlings, all 200 pounds and over, and half of them good for 300 pounds at three years old. Not one of these rams had ever tasted grain save the scattered heads in the stubble field. They were "children of the sun," which shines full 300 days of the year on beautiful Woodland farm. What magnificent animals those rams were! As grand in covering and fleece as they were symmetrical in form and perfect in type and contour. Kingly of carriage, heavy in neck, brisket and quarters, broad of back and loin, strong in spring of ribs and bone, and on all the aristocratic Bullard cast—the insignia of the high breeding that has made the name of the noble founder a household word in the West for a third of a century. Every ram of these was fit for leadership of a stud flock. And what of the other 300 rams that were candidates for service in Western flocks?

Not a Cull in the Lot.—The culling had been done at lambing among the lambs and at breeding time, when every faulty ewe was discarded, and here were 300 seconds that would have found an honored place in most other flocks. Splendid in form, superlative in fleece; good all round and heavy wool bearers; a grand lot, ranging from 180 to 225 pounds in their first year, but not so pronounced in size as the first lot inspected. There are few left-overs in the Bullard ram flocks, each season's demand cleaning up all the available ram stock. No stock sheep in the country are more popular than the Bullards and no breeders in the West are in greater favor. The younger Bullards, Edwin, Edgar and Frank Jr., are worthy successors to the honored name and fortune of their gifted sire; brave, frank, manly, ambitious and self-respecting, and each inspired by the same sentiments, lofty ideals and high aims and purposes of their honored father.

A California Victory on Angoras.

The greatest exhibit of Angora goats ever held in America and probably the greatest in the world was that at St. Louis. Competition was open to the world, and a few South African goats were shown, as was also the get of the last Turkish importation. In the last week in September the Angoras commenced to arrive, and by October 3 the two fine barns reserved for goats were filled to the limit. Over 400 animals were on exhibition, and nearly every prominent Angora breeder in America had a fine show. They were all worthy of prizes, but Prof. George F. Thompson had to select the best and place each animal in its proper position. Each anima was examined and re-examined. Some of the classes had as many as twenty entries and no one who has not had actual experience knows what a task it is to arrange each animal according to merit.

The California Victory.—Fred T. Bailey of the firm of C. P. Bailey & Sons Co. has just returned from the St. Louis Fair with their exhibit of Angora goats, says the San Jose Mercury. This firm is very much elated over their success at the World's Fair, as they have captured in all over thirty prizes amounting to $1100.

One of these prizes was that for the "grand champion buck," which they especially desired, and in competition for which prize alone there were eighty other animals from all parts of the United States and South Africa.

This is the third World's Fair at which the Bailey Angoras have won the first prizes—at New Orleans in 1885, Chicago in 1893, at St. Louis in 1904.

One of the finest animals on exhibition was their two-year-old buck Zarmeda, a direct descendant of Beibazar, one of the Angoras which Dr. Bailey succeeded in getting from the Sultan of Turkey a few years ago. Two fine specimens of this same stock, Beibazar II and Oregon Beibazar, took first prizes at the California and Oregon State Fairs respectively this year. This is very encouraging as a recompense for the expense and risk of Dr. Bailey's daring undertaking.

Messrs. Bailey & Sons were the only California exhibitors and their success there places California in the lead as a producer of fine Angoras.

THE DAIRY.

Recent Holstein Doings.

The official records of Holstein-Friesian cows (kept by S. Hoxie of Yorkville, N. Y., superintendent of Advanced Registry), from September 1 to October 27, covers the doings of 47 cows. Only one of this number commenced eight months after freshening It was made by a 5-year-old cow that dropped her calf October 30, 1903. Commencing her record July 14, 1904, 258 days after calving, she produced in 14 days 20.687 lbs. fat, an average of 1.478 lbs. per day.

Two 30-day records were approved, the largest of which was made by a 4-year-old cow. She produced 66.921 lbs. fat, an average of 2.231 lbs. per day.

Of the 7-day records, 8 cows averaged age 7 years 4 months 6 days, days from calving 16, milk 440 lbs., fat 14.457 lbs.; 12 4-year-olds, averaged age 4 years 4

The New Primus Blackberry

GREAT BEARER

This enormous bearer is the latest of Luther Burbank's horticultural triumphs. Concerning this work and the triumph that follows it, a writer says:

The infinite amount of patience and labor that is necessary that results may be secured is shown by the single incident of the development of the Primus berry, one of Mr. Burbank's most valuable additions to the list of food berries. In producing this berry he secured 5000 seedlings from the many crosses made, of which not a single plant was found to be of any permanent value, and they were all destroyed. Nine hundred thousand berry bushes, one and two years old, were torn up and burned in bonfires in a single season—not one of them was able to prove its right to live. Eventually Mr. Burbank succeeded in this experiment, and the world was made the richer by the addition of a wonderful Primus berry. The wonderful changes in plant life which Mr. Burbank has brought about have been accomplished.

1. By the observance of the laws of nature.
2. By absolute devotion of a life possessed of marvelous patience, with an intelligence of high order.

The origin of the Primus berry is thus shown, giving good idea as to its value.

O. O. Eaton of Watsonville, Cal., has done much in the way of practical culture of the Primus blackberry. The ground where his nursery is at Watsonville doesn't freeze, and he can produce a well-rooted plant by the middle of February. He has never made a plant from ordinary cuttings, or in any other way than from the tips of the vines. The result of that is that all of his plants are good. They are made from one and two year old vines—that is, the mother vine.

I will guarantee every plant to be well-rooted. They will be properly packed for shipping and securely sent to any address.

The fruiting season is about closed when the season for the Mammoth blackberry opens.

Many times a small plant is better than a large one. Send for descriptive circular.

O. O. Eaton,

Grower and Shipper Pajaro Valley Strawberries, Blackberries, Raspberries, Loganberries and Mammoth Blackberries,

BOX 567, WATSONVILLE, CAL.

months 27 days, days from calving 15, milk 395.3 lbs., fat 13.321 lbs.; 7 3-year-olds averaged age 3 years 3 months 26 days, days from calving 28, milk 312.8 lbs., fat 11.056 lbs,; 12 2-year-olds averaged age 2 years 3 months 13 days, days from calving 24, milk 283.9 lbs., fat 9.321 lbs.

Perhaps the most remarkable record on the list was that of a heifer that dropped her calf at 2 years 12 days old. She produced 46.369 lbs. fat. in 30 days, an average of 1.545 lbs. fat per day. Her average for the best seven days was 1.642 lbs. fat.

Agricultural Review.

Fresno

RAISIN PRICES.—Republican: Without any particular organization, or concerted movement, raisin growers generally are taking the wise course of refusing to sell uncontracted raisins except at good prices. There was an apparent attempt, for a while, on the part of packers, to fix a dead level of 2 cents a pound, but independent buyers began paying 2½ cents, and that price can no doubt now be easily obtained for any sound raisins. Growers having good raisins are quite generally holding for three cents, and there appears to be no reason why they should not get it. In fact, there is no likelihood that packers will hesitate to pay better prices, as soon as they have secured complete deliveries under early contracts, taken at low prices. All things considered, the raisin situation might easily be worse, and is likely to enter next year in a fairly healthy condition, provided pains are taken to see that none but sound raisins go on the market for human food.

Humboldt.

GOOSEBERRY WITHOUT SEEDS.—Call: California has another propagator of a new species of vegetation. He is Albert Etter of Humboldt county. He has produced a gooseberry that is far removed from the ordinary gooseberry. In the first place Mr. Etter has eliminated the seed from the gooseberry, which up to the present time has always been full of seeds. In the next place Mr. Etter's gooseberry has been provided with a thin skin, instead of a tough one, such as has always covered that sort of growth. Then, again, the acid has been moderated.

CHEWED HAY. — Eureka Standard: Alonzo Langford, a young farm hand, residing at Bull Creek, was operated upon at the county hospital last week for a complaint that might be justly stated to have been caused by his not having a horse's stomach. When Langford was brought to the hospital he was suffering from a stoppage of the bowels, which had continued for five or six days and had resisted all ordinary treatment for its relief. It appears that Langford was employed upon a hay press, and while at work contracted the habit of stripping the oats from the wisps of hay, chewing and swallowing them. As his teeth were not built for that kind of work he did a poor job with them, and, to make matters worse, his stomach was also a misfit for that kind of diet, so it was up to the doctors and almost up to the undertaker.



GOMBAULT'S
CAUSTIC BALSAM

A safe, speedy and positive cure for

Curb, Splint, Sweeny, Capped Hock, Strained Tendons, Founder, Wind Puffs, and all lameness from Spavin, Ringbone and other bony tumors. Cures all skin diseases or Parasites, Thrush, Diphtheria. Removes all Bunches from Horses or Cattle.

As a **HUMAN REMEDY** for **Rheumatism, Sprains, Sore Throat,** etc., it is invaluable.

Every bottle of **Caustic Balsam** sold is Warranted to give satisfaction. Price **$1.50** per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars, testimonials, etc. Address

THE LAWRENCE-WILLIAMS COMPANY, Cleveland, Ohio.

Kings.

PROLIFIC COW.—Hanford Sentinel: I. P. Alcorn has a fine Holstein cow that has brought forth six fine calves during the past three years—three sets of twins. Mr. Alcorn says the cow is a fine milk-producer, and profitable animal all round.

OVER TWO TONS PER ACRE.—John Sullivan, of Grangeville, has just brought in the last load of raisins from his place for this season, and his vineyard made the enormous record of averaging a little over two tons of raisins to the acre.

SAVING GRAIN.—J. W. Barbour has finished harvesting grain on the soft lands of the lake country and took about 6000 sacks of wheat from it. This grain was left unharvested by the other harvesting outfits on account of the ground being too soft to run the machine over it, and then Mr. Barbour had his machine rigged up to suit the conditions and succeeded in saving a great deal of the grain and would have gotten as much more if the heavy rains had not come in the latter part of September. This means about $10,000 worth of grain saved.

Los Angeles.

GOOD WALNUT CROP.—Monrovia Messenger: Walnuts in El Monte section this year are nearly all No. 1s, the best in quality ever harvested. The yield is good and there has been practically no trouble from the blight. Twenty carloads have been shipped from El Monte district this season and about thirty remain in the storehouses. The walnut acreage is increasing very rapidly and within a few years practically all of the suitable land will be set to trees. This immediate locality has proved so thoroughly adapted to walnut growing, and is so free from blight, that unimproved land has increased in value 40%, and in some instances much more than that, and old groves are held at $1000 per acre.

San Diego.

SIX HUNDRED ACRES OF COTTON.—Imperial Valley News: Joe McDonald, who owns land in Water Co. No. 6, is preparing to put in 600 acres of cotton. He is confident it will do well in the valley, and in order to pay them to get in the necessary machinery they will put in the above-named acreage. At Calexico they have been experimenting with cotton very successfully for the last two years. At Brawley, in the Investment Co.'s yard, some cotton is growing that was planted one year ago last July. It lived over last winter without the frost hurting it, and has had more or less cotton on now for several months past, and is to-day 6 or 8 feet high and loaded with blossoms.

San Joaquin.

GROWING COTTON. — Lodi Sentinel: J. W. Graves of Manteca is experimenting with cotton raising in this county. He has planted four acres of his rich land in that region of alfalfa and cream to cotton. The other day he brought to the Stockton Chamber of Commerce headquarters a cotton plant, indicating that his experiment is meeting with gratifying success. The plant is about 3 feet high and contains several large pods, some of which have burst open, exposing the white cotton in its native state. A well-known Stockton man, who is thoroughly familiar with cotton raising, examined Mr. Graves' plant and said: "That's as fine cotton as ever I looked at. If that is a fair sample of what Mr. Graves has on his four acres, then cotton raising should be a great success in San Joaquin."

BEAN CROP.—Stockton Mail: J. B. Meloche has completed a report containing data as to the bean crop of the State. It shows that while the loss from rain is about what was estimated, as far as money value goes, there was a much greater yield this season than last. The increased acreage will help to compensate for the loss by rain to a large extent, taking the State as a whole. About 20% of the beans were harvested before September 21st and are in first class condition, commanding 3c per pound. Damaged ones bring from 1½ to 2c. The bean acreage is constantly increasing and the business of growing that product promises to become one of the most important agricultural pursuits in California, because beans can be grown here at much less cost than in the East, where twelve or fifteen sacks to the acre are considered a big yield. Here the yield is from thirty to thirty-five sacks to the acre.

GRAPE SEASON ENDED.—Lodi Sentinel, Nov. 5: Wednesday closed the grape season in Lodi as far as shipping in car lots is concerned. J. A. Anderson shipped a car Wednesday and he claims it to be the last for the season. As nearly as can be learned, about 400 cars have been sent from this point.

San Luis Obispo.

DIPPING CATTLE AT ARROYO GRANDE. — Herald: Monday we drove out to T. J. Steele's ranch and watched the operations of his new cattle dip, for destroying ticks and other vermin. The cattle are driven from the corral into a gangway just wide enough for one animal. As it progresses along the gangway it comes to an inclined section covered with zinc and it slides into a vat of dipping fluid so deep that it has to swim; then it scrambles out into a small corral where the excess of fluid drains back into the vat.

Siskiyou.

CATTLE THIEVES.—Yreka special to Sacramento Bee: Some of the cattlemen living in the vicinity of Yreka are up in arms, and they have good cause to be, as unknown party or parties have been helping themselves to some of the finest stock in this section. This state of affairs has been going on some time and several owners have lost very heavily. They have not been able to locate the guilty party. The limit was reached a short time ago when two fine imported bulls were stolen and driven away. The matter was kept quiet for awhile in an effort to locate the animals and thief, but all efforts failed. It is thought that they were driven off a long distance into some other section of the State. One of them was the property of Will Schock, of this place, and was valued at several hundred dollars. The cattlemen are talking of organizing themselves into a Protective Committee to stop this raiding of their stock. A close watch will be kept in future and if any suspicious character is caught in the vicinity of their cattle he will be immediately investigated and if caught in the act of stealing stock there will surely be a lively time in store for the culprit.

Sutter.

SALE OF RAISINS.—Yuba City Farmer: Mark Pease recently sold his crop of Thompson seedless raisins, amounting to over seventy tons, to Rosenberg Bros. & Co. The price received, so we understand, was 5½ cents per pound in the sweat boxes. They were bleached and of fine quality.

Stanislaus.

BUTTER AT THE EXPOSITION.—Modesto Herald: Mr. Severin, manager of the creamery in this city, in the early part of October sent a tub of butter to the National Creamery Buttermakers' Convention in session at St. Louis. This butter was graded and received the score of 93½%, being adjudged perfect in all save flavor, losing here because of overripe cream used in the making. A small bit of the cream doubtless came from some one using an individual separator which was not in the best of condition, the small bit of bad cream keeping the butter from getting a higher flavor marking. Still, butter which grades 93½% is classed in the Eastern market as "Elgin firsts," and commands the very highest market price.

BLACKLEG EPIDEMIC.—Modesto News: Reports from Crow's Landing state that blackleg among the cattle in that vicinity has assumed such proportions as to be pronounced epidemic. The Simon Newman Co. lost fifty head during October, and others have suffered a corresponding decrease in their herds. The cattlemen are vaccinating extensively. The recent climatic conditions—rains followed by unusually warm weather—is thought to be the cause of the epidemic.

Sonoma.

HOP PLANTING.—Santa Rosa Republican: John L. Peterson has purchased eighty acres of Russian river bottom land from Llewellyn Hall, near Healdsburg, and will set the same out in hops this spring. Mr. Peterson has the hop roots on hand at present to plant the new property acquired, and with a convenient season of weather will plant the same. The indications are that there will be a largely increased acreage set out to hops this spring. Last spring there was something like 1500 acres in contemplation, but owing to the extreme wet weather there was no opportunity to plant the vines until it was too late. Another drawback last spring was that growers could not secure hop roots or poles.

MACBETH,
on a lamp-chimney,
stays there.

My Index tells what chimney fits your lamp. If you use that chimney, you get perhaps twice as much light, and save a dollar or two a year of chimney-money,

I send it free; am glad to.

MACBETH, Pittsburgh.

STUDEBAKER'S ALMANAC

The 1905 Edition is out and is being distributed. We have put more expense on this book than usual and have made it to be in keeping with the well known high quality of Studebaker goods. It is a book that farmers will be glad to preserve. It gives you every valuable Almanac feature and much besides. There is not a line of trashy matter in it, while its weather forecasts, record of historical events, new recipes, tables, literary gems, illustrated Mother Goose rhymes, etc., make it a book which interests every member of the family. Josh Billings' characterization of the different months is a feature which the rising generation will appreciate. The Almanac can be had free wherever there's a local Studebaker dealer. If there is none in your town, write us direct for a copy.

AS THE FAIR CLOSES

shortly, you are likely to go to St. Louis if you haven't been there already. Of course you'll look up the Studebaker exhibit. It's one of the features there—a little exposition by itself. We've been handing out some beautiful souvenir booklets and supplying the people with valuable guide maps the whole time. There will be some left for you. Don't fail to look us up in the Transportation Building. And don't fail to write for the 1905 Almanac.

Studebaker Bros. Mfg. Co.
SOUTH BEND, IND.

Tehama.

GROWING MORE FRUIT.—Red Bluff special to Sacramento Bee: The Tehama County Board of Horticulture has forwarded its annual report to John Isaacs, secretary to the State Commissioner of Horticulture in Sacramento. The report shows that Tehama county is growing as a fruit-raising district. During the past year it produced over 2,000,000 pounds of prunes, although nearly one-third of the crop was lost by rains. The output of dried peaches amounted to over 1,000,000 pounds and about an equal amount of green peaches, apricots and plums were shipped East. The output of dried pears was 350,000 pounds, while 700,000 pounds of pears were shipped. The crops of the other fruits raised in Tehama county amounted to the following figures: Pitted plums, 150,000 pounds; dried apricots, 90,000 pounds; green apples, 600,000 pounds; olives, 230,000 pounds.

ALFALFA PLANTING. — Corning Observer: Considerably over 150 acres are now being planted to alfalfa in Richfield colony. Aitken & Case are planting 20 acres, C. F. Payne 6, Harry Mitchell 18, Lewis Brandt 9, C. F. Jewett 16, Carl Fergus 10, Marshall DeMotte 10 and F. Houghton 70 acres. As 100 acres in the colony were planted to alfalfa previous to this season, the total reaches over 260 acres. With water for irrigation, the yield will average six tons to the acre at a low estimate.

Tulare.

NEW WAY OF PACKING PRUNES.—Visalia Delta: George A. Fleming states that the packers at the establishment in the east part of town have been engaged in packing prunes in 1-pound boxes, an order for which was received a few days ago. Some of the ladies at work up there are very efficient in packing this way, which requires patience. The prunes are put up like raisins and are very attractive.

EARLY ORANGE SHIPMENTS.—Lindsay Gazette, Nov. 4: The first car of the Washington Navel orange crop left Lindsay on Nov. 1. The fruit was grown by Burr Bros. and packed and shipped by the Lindsay Orange Growers' Association and will be marketed by the California Fruit Exchange. The fruit is excellent in every particular and the pack first class. The season has opened in full force and from now on all the eight packing houses will rush the crop off to market. Picking commenced in several of the orchards yesterday morning.

The Home Circle.

The Scientific Life.

"Before the breakfast has been prepared, or after it has been served and eaten, the housewife should add up the different amounts of proteid, fat and carbohydrate found in the food. The computing cards should be used at each meal. In the evening you find out whether you have taken too much of one kind of food or not enough of another" —Mary Moulton Smith.

Mother's slow at figures, but she always has to count
The proteids to see that we secure the right amount.
She keeps a pad of paper and a pencil near the sink,
And estimates our victuals—all the things we eat or drink.
She lists our carbohydrates and she scribbles down the fat,
And our specific gravity — she always watches that.

Mother's slow at figures, but she wants to do her best,
She's listened to the lectures until she is possessed
Of scientific demons and a regulating card—
And while she chews her pencil all the eggs are boiling hard.
She gets bewildered with it, and she has to balance up,
And the coffee is so sturdy that it almost cracks the cup.

Mother's slow at figures — so our breakfast's always late;
The proteids and the hydrate make the task for her too great.
We never get a luncheon, for she figures on till noon,
And finds we've overdone it, and that almost makes her swoon.
Mother's tabulating every pennyweight we eat
Except the meals we smuggle from the restaurant down street.

—Chicago Tribune.

"Gog's" Triumph.

"Gog" was a hero. The hero worshipers didn't know him as "Gog," but as Thad—Thadeus Abram. His old friends of earlier schooldays knew him by the nickname "Gog," however, and he never outgrew it. Right anxiously and hopefully did they trace his rise to favor and success in his initial as well as his subsequent years at college.

An athlete almost from the cradle, he developed and improved, and when the athletic committee of the college sized up his work on the campus diamond they were not long in enrolling him as "future great." On the football eleven he won laurels as quarter-back, and as captain and third baseman of the baseball team he never had an equal in the history of the college.

It was in the early months of the autumn preceding his last year at college that there came to the small city a maiden of seeming metropolitan tastes and airs. This fair structure of lovely femininity bore down on the college functions like unto a blue ribbon winner at a chrysanthemum show. The varied petitioning glances of the college youth seemed to have little weight with this beauty, however. The reason, perhaps, was satisfactorily explained when it was whispered about that she had promised to be "the only" to a well-to-do New York banker.

The season grew on apace, and it befell Thad's lot to meet Adelle Lafayette at a dinner given at a friend's home. The dinner, while informal, was nevertheless all to be desired. Thad's appetite, however, was anything but such as would lead his hostess to believe he was enjoying the meal. The guests jokingly attributed it to the fact that it was the eve of the great annual football contest with their old rivals, and that the doughty quarter-back was loath to take any chances with his being in prime condition for the fray.

Of course the conversation naturally drifted to the game of the morrow, and the chivalrous young athlete invited all to attend the game as his guests. Adelle accepted the invitation for herself and her banker friend, and the next afternoon saw them all gaily bedecked with college colors, cheering lustily for the players of their choice.

The preliminary practice over, the mighty warriors lined up for the first note of the referee's whistle signalling the opening of the game. The flushed face, the dancing, sparkling eye, of Adelle, directed at a seemingly single object in moleskin away to the rear, left no doubt that her heart and soul were in the struggle, and a memorable struggle it proved to be. Up and down the field swayed the little oval, turning the tide of battle one way, then the other. A mighty punt from the toe of Thad's giant captain sent the ball deep into the enemy's territory, but back it came, soaring heavenward and onward until it seemed as if it never would come down. Below where the oval seemed hung in air dashed a lone, solitary figure. It was Thad. Finally down came the little pigskin like a shot, and smashed into the trained arms of Thad awaiting it. The old south stand cheered and cheered as the little quarter-back started up the gridiron toward the enemy's goal. Like the wind his fleet and nimble feet seemed to enable him to cover the ground lost in the exchange of punts. As he closed in on the enemy's territory the backs, ends and tackles charged fiercely. To left, to right, now back, now on, he dodged, shaking off tackle after tackle, squirming and struggling, until down he went, with a half dozen or more desperate tacklers piled on top. Away above the mighty cheer that was echoing and reechoing the glorious run of the plucky quarter, a shrill, piercing scream escaped the lips of a fair rooter on the south stand as Thad was crushed to earth. "He'll surely be killed!" frantically called out the excited little beauty; and as the writhing, struggling mass untangled itself, and from the bottom wriggled forth Thad, a sigh of relief escaped Adelle—for she it was—and she buried her face in her hands to hide her blushes and escape the curious smiling attentions of those who sat near her.

Another heart had joined the great army of hero-worshipers.

Adelle's exhibition of sympathy did not go unnoticed by her moneyed friend, who sat beside her, nor did it escape the folks whose guest she was in the city.

Between halves and after the rub-down Thad managed to slip over toward the boxes and wave his hand in recognition, and the hearty response of Adelle seemed to disconcert the male suitor with her.

Again the tide of battle ebbed and flowed; fiercer and fiercer charged the rival combatants; clouds hung low, while here and there a ray of sun shone through to stimulate hopes of victory in the breasts of the student bodies.

But victory was not for Adelle's champions. They had gone down to defeat, but gloriously. There was a sting, but no dishonor, in such defeat. The game was lost, but a heart had been won, though no one knew but Adelle.

There were other games which Adelle attended — fraternity functions which opened up to her a new life. The past she forgot. She decided to write to her betrothed in the big city, and ask release from her engagement. She did not love him!

The fatal letter reached the metropolitan banker in due time, and the same evening found him with Adelle's father.

The fact of the matter was that the match between Adelle and the banker was of her father's making. The news of his daughter's disregard of his wishes was like so much thunder from a clear sky. A telegram reached Adelle that night demanding her return home the next day without fail.

Adelle, obedient — for she loved her father and was his seeming favorite among the large family of girls — took an early train home the following day. Her father received her with his warmth and loving kisses, as was his custom, and told her he would talk to her in the evening.

The autumnal twilight had just settled down over the vine-covered bay window in which Adelle had taken seat when Papa Lafayette joined her.

"Well, my little one," he began, "so you have decided to disobey my wishes, have you, as to your future relations with George? Now, you must surely understand that I, who have nothing but your future welfare at heart, would not have encouraged this engagement if I did not think it for the best. George is a good, moral young man; has principle, and excellent prospects so far as his finances are concerned. I certainly think you are making a great mistake by breaking off with him."

"But, father," spoke up Adelle, throwing her arms about her father's neck and kissing him as a loving daughter is wont to do, "I do not love him. You surely don't want me to marry a man I do not love."

"How long has it been since you discovered your true feeling toward him, daughter?"

"Well, father, I have never felt toward him as I have often dreamed and thought a sweetheart should toward a lover and future husband. I respect him, but that is all — I cannot love him. I have tried and tried, for your sake, but I just can't," sobbed Adelle.

"Is there any other person who holds that ideal place in your heart, little one?"

Adelle remained silent. She feared to tell even her father the innermost longings of her heart.

"Speak, daughter; we have no secrets between us."

"Well, father, I do love another, a Mr. Abram—Thadeus Abram."

"Indeed; and who is this fellow?"

"Father, he is a student at ——— college. Why, papa, he's just been elected captain of the college nine and plays quarter-back on the 'varsity eleven," proudly spoke up the girl.

"What's this you tell me? You've fallen in love with a young, silly college boy, probably not out of his teens, who is no doubt a sport and parts his hair in the middle? This cannot be. You must not—you will not—tie yourself up with this penniless young fool."

"He's not a fool," flashed Adelle, a little of her father's spirit showing forth in her manner. "Call him what you will, father, but he's a man—a man, every inch of him."

"I will never agree to your marrying this Mr. Abram. You may break off relations with George, go anywhere, do what you please; but I swear you must not leave me for this college lover, a fellow you know absolutely nothing about."

The pleadings of her father, the heart and soul he seemed to pour into his words, seemed to melt Adelle into a spirit of submission, and when the good-nights were said it was with the understanding that Adelle would try to forget Mr. Abram, would not correspond with him, and should be free so far as her banker lover was concerned.

That night she cried herself to sleep, and awoke late the next morning, her father having gone to his place of business before she came downstairs. For several days everything moved along smoothly. The father seemed to be happy and contented, and Adelle, too, seemed to inhale the same air of good humor and pleasantry as marked her father's bearing when in the house. Months slipped by. The college team, her new lover a member, came to her home city. They met unknown to Mr. Lafayette. The Christmas season was on, and an invitation from Adelle's sister came to ask her to visit her in the college city for a little while. Papa's consent was obtained, and she started for the station light and airy as a bird just released from long captivity.

The few days' visit was stretched into weeks, and meanwhile Cupid had gotten in his telling work.

She returned to her parental roof. The letters from the fraternity-room came regularly—almost daily—and of course the father soon became aware of it.

He called her to him one evening, and when she had settled herself comfortably upon his knee, he kissed her and said: "Adelle, you have renewed your relations with that college fellow again, I see."

She had to admit it, and did.

"Well," said he, "I have made up my mind that this must stop; that you must receive no more letters from him, and must write such a letter to him as you may show me, telling him he must not write to you any more. I have made up my mind that it shall be so. You must choose between me and this man Abram."

Adelle broke into tears, protested, but to no avail. She insisted that she loved Mr. Abram, and that if she didn't marry him she would marry no other man.

The father grew white with rage, stamped, parading the parlor in a high state of excitement. To disobey meant Adelle's disinheritance, her loss of home, for her father swore that no daughter of his should share his roof and still accept attentions and mail from any young snip of a fellow like unto this Abram.

Adelle again weakened. She wrote as her father wished, and sent the letter. The note was short. The father read it, and expressed his satisfaction at Adelle's sensible conclusion. Adelle further promised to return all letters received from Abram.

The receipt of Adelle's note carried with it the pain such a message would naturally cause. What to do Thad knew not. He could not understand the change wrought in Adelle's affections. Troubled and worried over the few days of silence following the receipt of the fatal note, and goaded almost to desperation, he wrote Adelle.

Adelle was sitting on the porch when the postman came along, and in the bunch of mail handed to her was one bearing the familiar handwriting of Thad. The temptation was too great. She opened it. (Who wouldn't?) The message reawakened in her all the old love that had been smoldering since she sent her last little note telling him to cease his attentions.

The reaction put her to bed with a high fever. The doctor gave it as his opinion that her nerves were in bad shape, and that several days of quiet would be necessary.

For several days she remained abed. Feeling improved one evening, she put on a gown to make her first trip downstairs since her illness. Her tottering step gave every indication that she was not strong.

She wandered into her father's den to give him a word of greeting, when she was received with a cold, withering look, which left no doubt that papa had something on his mind that he wanted to get rid of.

"Sit down, daughter," he said, "I want to speak to you."

Adelle knew in an instant that he was going to reopen the old sore, but she was not sorry. Her hours and days in bed had given her time for sober thought and decision.

"You've been receiving mail from that man Abram again, I understand."

"Yes;" and she proceeded to say that she was sorely tempted, and told how, and promised to send it back and so on.

"And you don't love him any more, do you?" pleaded the father.

"Oh, yes; I do. I'm trying hard to please you, but love Thad Abram I do, and always will."

In a rage Mr. Lafayette left the room and Adelle; not, however, before again demanding that she "receive no more letters from that insolent chappie."

Two months passed, and everything seemed moving along without a sign of a cloud of discontent in the Lafayette home. All faith is not to be put in signs, however, for one evening Mr. Lafayette, upon his arrival home from his office duties, said to Adelle: "Daughter, I want to see you in the library after supper."

By his tone and manner Adelle knew

"He that loves a rosy cheek," uses only Williams' Shaving Soap.

Sold everywhere. Free trial sample for 2-cent stamp to pay postage.
Write for booklet "How to Shave."
The J. B. Williams Co., Glastonbury, Ct.

that a violent rage was penned up within her father. She looked for its outburst after the evening meal, and she was not disappointed.

There was little acting after the supper had been cleared. Into the library walked the father, to which place Adelle shortly after repaired. Once inside and the door closed the storm broke forth in all its human fury.

"You have deceived me; you have lied to me time and time again; and you greet me with your smiles and Judas kisses at every opportunity. Now what have you to say for yourself? Speak up; don't be a coward. You were not a coward when you deliberately stood before me and told me that your relations with this adventurer, this Abram, were at an end. Speak up; I expect you to."

Adelle wondered how much her father knew. What should she say? The old Lafayette spirit that was born in the girl came to her rescue. She did not rise from the chair in which she had taken a seat; her pose was one of self-confidence and determination.

"Yes; I have deceived you. I love Thad Abram, and I cannot give him up. Won't you read this letter that I received from him to-day?" she said, handing it to her father.

"Read this letter, these lines, the thoughtless, silly vaporings of a young fellow who doesn't know his own mind? Bah! never. You, you, I say, must decide to-night—now between him and me. If you still insist upon receiving mail and attentions from this man you must leave this house; you can no longer fill the place of a daughter of mine."

Trembling somewhat, Adelle looked pleadingly into her father's eyes, but they received no loving response.

"You, father, say I must decide now, to-night?"

"Yes, now; right now!" thundered the enraged father.

"Then I must decide in Thad's favor, for he is my husband. We were married March—in Grace Church chantry."

Speechless, Mr. Lafayette dropped into a chair. Great beads of perspiration stood out on his forehead, and a slow-forming, black and ominous cloud seemed gathered on his countenance. Like the peals of distant rumblings of thunder he vented his passionate feelings upon the girl. Louder, louder and fiercer became his denunciation. "Out of this house you go! Out! And to-night. There is no room here for such as you. Go, and live your fancied future with your college beauty. You are no longer a daughter of mine. Go! There is no appeal from my decision."

Not so much time as to gather a few articles of wearing apparel did Adelle take in complying with her father's demand. Out into the world, she knew not where; but go she would and did. A sister's home in another part of the city sheltered her that night, and an answer to a telegram to her husband instructed her to start for college home the next day.

It was on the eve of the trip South for the summer baseball training, and the sudden climax of the romance sort of put the captain of the baseball team in no little hot water, so to speak. He was the man of the hour, however, and it took him but the day and the night to make Adelle as comfortably settled as possible until his return from the South.

In due time he returned. The strenuous life of a captain of a 'varsity baseball team had little effect on him. He entered into the game and play perhaps the most enthusiastic of his fellows. His life seemed all sunshine, and the same sort of spirit seemed to be instilled into the work of his brother players so thoroughly that the season developed one round of successes, the greatest in the history of the college baseball association. The old rivals, who had crushed them on the gridiron in the fall, went down ignominiously to defeat before them three times. Thad Abram was the hero who had brought about the possibility.

The college baseball season once over, the principals in this little romance settled down to practical married life. Happy is too mild a word for describing their state. They lived and do live in a little world seemingly all their own.

Perhaps some day Papa Lafayette will become reconciled. Perhaps the flame of hatred that burned so fiercely on that April night and since will some day have spent itself, and the natural, loving father of old will assert himself toward his Adelle, his once favorite.—Henry Nilram in Farm and Fireside.

The Care of a Razor.

"The average man who shaves himself doesn't know how to take care of his razor, despite all the advice that has been given to him in the public prints from time to time," says G. A. Helglass, expert barber.

"He will get a good razor and use it day after day, then wonder why at the end of a short time it loses its edge, even though he strops it most carefully. A razor needs brief intervals of rest or it will grow dull, no matter what efforts are made to keep it sharp. If you have a good razor and it appears to be losing its edge, just try a rest for it instead of having it sharpened up again. The chances are that when you put it into use again, at the expiration of three or four days, it will prove as sharp as if it had been carefully honed.

"A man who shaves himself ought to have at least two razors, and use these on alternate mornings; then, if his razors are all right, he will have but little trouble with them. It is also possible to strop a razor too much. It should not be stropped for more than half a minute before shaving, and care should be taken never to bear heavily on the strop while doing this. Let the razor rest lightly on the leather, and the best results will be gained. After finishing a shave, strop the razor once more for a few seconds, and this will insure a much better condition for it."—St. Louis Globe-Democrat.

Hints to Housekeepers.

A handful of dried orange or lemon peel kept in the cake box or cookie jar is said to improve the flavor of the cake.

If a tin of water is placed at night in the room where gentlemen have been smoking all smell will be gone in the morning.

A tablespoonful of ammonia in a gallon of warm water will often restore colors in carpets, and will also remove whitewash from carpets.

New floor oilcloth that is losing its luster may be made to look as good as new, and to last longer by treating it to a thin coat of glue. The oilcloth should be washed thoroughly with a weak pearline suds, then at night apply the glue water with a flannel cloth, and it will be dry and hard by morning.

A beauty specialist discounts the practice many women follow so persistently of dashing the face with the coldest water that they can lay hands on. She says the shock which the face receives tends to check rather than quicken circulation, that the result will be a thickening and yellowing of the skin wherever it is kept up for any length of time.

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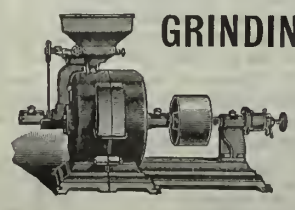
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The Markets.

San Francisco Produce Report.

San Francisco, November 9, 1904.

CHICAGO WHEAT FUTURES.

Wheat futures in Chicago were as follows for the week named, price being for No. 2 Red per bushel:

	Dec.	May.
Wednesday	$1 13½@1 11½	$1 12⅝@1 11¼
Thursday	1 11⅜@1 12½	1 11¼@1 12½
Friday	1 12⅛@1 11¼	1 11⅞@1 11⅝
Saturday	1 11⅛@1 12¼	1 10⅞@1 11⅝
Monday	1 11¾@1 12⅝	1 11¼@1 12⅛
Tuesday	*——@——	——@——

CHICAGO CORN FUTURES.

Prices of futures on No. 2 corn per bushel in Chicago were as follows for the week:

	Dec.	May.
Wednesday	48⅜@48⅞	45⅜@45⅞
Thursday	47⅞@48⅝	45¼@45¾
Friday	48⅞@48¼	45⅞@45⅝
Saturday	48¾@48¾	45½@45⅞
Monday	48½@48⅞	45¾@46
Tuesday	*——@——	——@——

SAN FRANCISCO WHEAT FUTURES.

The range of values in San Francisco for No. 1 White wheat per cental was as follows:

	Dec., 1904.	May, 1905.
Thursday	$1 43¾@1 45	$1 44¾@1 47
Friday	1 44½@1 44¼	1 46¼@1 46
Saturday	1 44¾@1 45¼	1 47 @——
Monday	1 45⅜@1 46½	1 46⅞@1 47⅜
Tuesday	*——@——	——@——
Wednesday	1 47 @1 46¾	1 47⅜@1 48½

Wheat.

Offerings in the local spot market have continued of much the same light proprtions as for weeks preceding. The most urgent inquiry is for choice to select milling wheat, and this sort is especially in light supply, with market for same firm at much the same quotable range of values as previously noted. Shippers are getting most of their wheat from the North, and are not doing very much business, although two full cargoes, aggregating 7,000 tons, with a valuation of $199,000, were clearcd from here on Friday last, a rare occurrence nowadays. The two clearances above noted are of larger volume than the total wheat shipments from this port for the month of October. There is considerable demand for wheat for chicken feed, and at as good or better prices than are obtainable on export account. In the speculative market there have been no great fluctuations or very active trading, the national election diverting attention much of the time. The Chicago market inclined in favor of the bears most of tho week, while in this center both December and May options sold at a higher range than preceding week. Market for grain charters is quiet at about 21s. 3d. for mixed cargoes to Europe, usual option.

California Milling	$1 50 @1 60
Cal. No. 1 shipping, alongside	1 42½@1 45
No. 1 Oregon Club	1 42½@1 45

PRICES OF FUTURES.

During past week the range on options was:
December, 1904, delivery, $1.43¾@1.47.
May, 1905, delivery, $1.44¾@1.48½.
Wednesday, at the forenoon session of Exchange, December, 1904, wheat sold at $1.47@1.46¾; May, 1905, $1.47⅞@1.48½.

Ocean freights and prices for wheat, as compared with a year ago, are as follows:

	1903-04.	1904-05.
Liv. quotations	-s-d@-s-d	-s-d@-s-d
Freight rates	11¼@12½s	21@—s
Local market	$1 37½@1 42½	$1 42½@1 45

Flour.

Values for recent makes are being tolerably well maintained at the quoted range, especially for favorite brands. There is considerable old flour on the market which is being offered at material concessions to buyers and is receiving very little attention. The outward movement of flour is of fair average proportions, Asia taking the larger portion of the shipments.

Superfine, lower grades	$3 25 @3 50
Superfine, good to choice	3 50 @3 75
Country grades, extras	4 25 @4 50
Choice and extra choice	4 50 @5 00
Fancy brands, jobbing	5 00 @5 25
Oregon, Bakers' extra	3 75 @4 25
Washington, Bakers' extra	3 75 @4 40

Barley.

There is no lack of demand for good to choice barley and market is firm at the prevailing values. Only about 40,000 tons have been shipped from here the current season to date, as against 140,000 tons for corresponding period last year. This great decrease in the shipments is largely due to exporters being unable to secure the grain readily or in great quantities at the prices they name. In fact, not at any figure is California barley to be had in as large amount as last year. A year ago there were over 60,000 tons in Port Costa and Stockton warehouses, while now there are only 40,000 tons. A clearance of Chevalier barley was made the past week for London, the German ship Altair carrying 17,984 centals, valued at $22,480, being $1.25 per cental.

Fee l, No. 1 to choice	$1 11¼@1 12½
Feed, fair to good	1 07½@1 10
Brewing, No. 1 to choice	1 12½@1 17½
Chevalier, No. 1 to choice	1 20 @1 25
Chevalier, common to fair	1 00 @1 10

Oats.

Values and the general condition of the market have not changed materially since last report. Offerings aro largely ordinary feed qualities, and for this sort there is no pronounced firmness. Choice to select oats are difficult to obtain in noteworthy quantity, and in a limited way are commanding comparatively fancy prices.

White oats, fancy feed	$1 50 @1 55
White, good to choice	1 37½@1 45
White, poor to fair	1 27½@1 35
Milling	1 45 @1 50
Black oats	1 30 @1 65
Red, fair to choice	1 25 @1 50

Corn.

There is a tolerably good shipping demand, mainly for Central America. Inquiry on local account is fair. Stocks are not heavy and are principally Eastern, straight and mixed. Market is firm at the quotations, strictly choice being difficult to obtain at top figures named.

Large White, good to choice	$1 45 @1 50
Large Yellow	1 45 @1 50
Small Yellow	1 60 @1 65
Egyptian White	—— @——
Egyptian Brown	—— @——
Eastern, in bulk	1 35 @1 45

Rye.

Not much offering and holders are firm in their views.

Good to choice	$1 40 @1 45

Buckwheat.

Market is inactive in the absence of spot stocks. Quotable nominally at $2@2.25 for good to choice.

Beans.

Receipts continue heavy, are mainly from Sacramento river section, and include few beans which are not damp. Business doing is principally in wet boans, as choice dry are being, as a rule, very firmly held and above the views of buyers. Wet beans are selling mainly within range of $20@40 per ton and are being run through drying machines.

Pea, fair to good, 100 lbs	$2 90 @3 10
Small White, good to choice	3 15 @3 35
Large White	2 40 @2 65
Pinks	2 85 @3 25
Bayos, good to choice	2 50 @2 85
Red Kidneys	4 50 @5 00
Reds	4 00 @4 50
Limas, good to choice	4 10 @4 20
Black-eye Beans	2 50 @2 70

Dried Peas.

Not many offering of any sort. Market is practically bare of strictly choice. Such would readily commond an advance on top quotations.

Green Peas, California	2 25 @2 50
Garbanzos, Large	3 25 @3 50
Garbanzos, Small	3 00 @3 25
Niles	2 25 @——

Hops.

The local market remains unfavorable to buyers, with offerings decidedly light. Quotable values remain nominally as last noted, but to purchase freely at this date higher prices would have to be paid. The last issue to hand of the New York Producers' Price Current says: "In New York State considerable buying has taken place this week, owing to London orders. Prices paid, however, have not varied from the values of the previous week. Three lots of hops have been purchased this week, for the account of the largest Western brewer, at 40c. in Cooperstown. These lots were very fancy, but the price has not been followed by any one. On the local markets considerable business has been passing, principally in States. Business with brewers continues steady. While the position is certainly a strong one, little change can be made in the range of quotations."

California, good to choice, 1904 crop	29 @31½

Wool.

The same firm tone previously noted prevails in the wool market for all fleeces in fair to first-class condition. There is scarcely any desirable wool offering here from first hands. Heavy and defective wools are not especially sought after, and when crowded to sale have to go at comparatively low prices. A strong market for 1905 clip is predicted.

SPRING.

Northern, free	21 @22
Northern, defective	17 @20
Oregon, good to choice	20 @22
Nevada	15 @20

FALL.

Northern	14 @18
San Joaquin and Southern, free	12 @15
San Joaquin and Southern, defective	8 @10
Southern lambs, as to quality	8 @14

Hay and Straw.

Increased receipts of high grade hay have caused market for this description to present an easier tone. Medium qualities were in less excessive supply and commanded relatively better figures than the best stock. Seriously damaged hay was in poor request at low figures. Straw was in fair supply.

Wheat, good to choice	$12 50 @ 14 50
Wheat and Oat	11 00 @ 13 50
Tame Oat, fair to choice	8 00 @ 12 50
Wild Oat	8 00 @ 10 00
Barley	9 00 @ 12 00
Alfalfa	9 00 @ 11 50
Stock hay	5 00 @ 7 00
Compressed	12 00 @ 15 00
Straw, ₱ bale	45 @ 65

Millstuffs.

Market for Bran is slow and weak, with offerings tolerably heavy. Shorts were in free receipt the past week from Washington. Stocks of Middlings are amplo for the immediate inquiry. Current values for Rolled Barley and Milled Corn are being well maintained.

Bran, ₱ ton	$18 00 @ 19 00
Middlings	24 00 @ 27 00
Shorts, Oregon	20 00 @ 22 00
Barley, Rolled	23 00 @ 24 00
Cornmeal	32 00 @ 32 50
Cracked Corn	32 50 @ 33 00
Oilcake Meal	31 50 @ 33 00

Seeds.

There is considerable inquiry for Alfalfa, with stocks light; Utah product is expected to be in moderate supply here in the near future. Market for Mustard is rather firm at the quotations, with demand fair. Other seeds listed below remain quotably as last noted.

Flax	$1 75 @ 2 25
Mustard, Yellow	3 50 @ 4 00
Mustard, Trieste	4 50 @ 5 00
	Per lb.
Alfalfa	15 @15½
Canary	6½@ 6¾
Rape	1¾@ 2¼
Hemp	3½@—
Timothy	5 @ 5½

Honey.

The German ship Altair, sailing the past week for London, carried 445 cases extracted honey. Movement on local account is not very brisk and is mainly in best qualities. Only for choice to select does the market show firmness.

Extracted, White Liquid	6 @ 6½
Extracted, Light Amber	4½@ 5½
Extracted, Amber	3¾@ 4¼
Extracted, Dark Amber	3 @ 3½
White Comb, 1-frames	12 @13
Amber Comb	9 @11

Beeswax.

Values are being well maintained at the quoted range. Stocks and offerings are of slim proportions.

Good to choice, light ₱ lb	29 @30
Dark	27 @28

Live Stock and Meats.

Choice Beef is in fairly good demand at quotably unchanged figures; common grades are in excessive supply. Veal is in ample receipt, and only for choice large is the market firm. Mutton and Lamb are selling at same figures last quoted, offerings being ample for the requirements. Hog market is firm and higher, with demand good for desirable packing stock.

Allowing for the shrinkage of about 50%, which is exacted in buying cattle on the hoof, live cattle command as much or more per pound than dressed beef, the shrinkage exacted being the slaughterers' profit.

The following quotations for beef and mutton are based on prices realized by slaughterers from wholesale dealers:

Beef, 1st quality, dressed, net ₱ lb	6 @ 6½
Beef, 2nd quality	5 @ 5½
Beef, 3rd quality	3 @ 5
Mutton—ewes, 6½@7c; wethers	7 @ 7½
Hogs, hard grain, 140 to 250 lbs	4¾@—
Hogs, large, hard, over 250 pounds	4½@—
Hogs, small, fat	4½@—
Veal, large, ₱ lb	6 @ 7
Veal, small, ₱ lb	7 @ 9
Lamb, spring, ₱ lb	8 @ 8½

Hides, Skins and Tallow.

Hides are in good request and quotable values show improvement. Market for Pelts and Tallow is ruling steady. Tallow is being shipped to Europe and Central America.

Nothing but select hides, clean and trimmed will bring full figures. Culls of all kinds, either from grubs, cuts, hair slips, side brands or murrain, are not always readily placed at the lower figures.

	Sound.	Culls.
Heavy Steers, over 56 lbs	— @11	— @10
Medium Steers, 48 to 56 lbs	— @10	— @ 9
Light Steers, under 48 lbs	— @ 9½	— @ 8½
Heavy Cow Hides, over 50 lbs	— @ 9½	— @ 8½
Light Cow Hides, under 50 lbs	— @ 9½	— @ 8½
Stags	— @ 7	— @ 6
Wet Salted Kip	— @10½	— @ 9½
Wet Salted Veal	— @11	— @10
Wet Salted Calf	— @11½	— @10½
Dry Hides	— @17	— @16
Dry Kip and Veal, 11 to 16 lbs	— @15	— @13
Dry Calf, under 4 lbs	— @20	— @18
Pelts, long wool, ₱ skin	1 00@1 50	
Pelts, medium, ₱ skin	70@ 90	
Pelts, short wool, ₱ skin	40@ 60	
Pelts, shearling, ₱ skin	15@ 30	
Horse Hides, salted, large prime, each	3 00@——	
Horse Hides, salted, medium	2 50@——	
Horse Hides, salted, small	2 00@——	
Horse Hides, dry, large	1 75@——	
Horse Hides, dry, medium	1 50@——	
Horse Hides, dry, small	1 00@——	
Tallow, good quality	4 @4½	
Tallow, poorer grades	2½@3½	

Bags and Bagging.

Nothing of consequence doing in this department at present. Quotations are based on prices asked by dealers and aro without quotable change.

Bean Bags	$ 4¼@5
Fruit Sacks, cotton	6½@7½
Fruit Sacks, jute, as to quality	5¾@7
Grain Bags, Calcutta, 22x36, spot	5 @5¼
Grain Bags, San Quentin, ₱ 100	4 50 @——
Wool Sacks, 4-lb	32 @——
Wool Sacks, 3¼ lb	30 @——

Poultry.

Arrivals of Eastern poultry continued heavy. They were mostly Old Chickens and not noteworthy for fatness, but being larger than the average California stock and selling at equally low figures, they interfered with the sale of common domestic. Large and fat Young Chickens were not in excessive supply. Turkeys were in light receipt and choice met with a firm market. Ducks and Geese were salable to about as good advantago as previous week. Young Pigeons met with a rather firm market, but demand for Old was slow.

Turkeys, Dressed, choice, ₱ lb.	$ 25 @ 28
Turkeys, Young, ₱ lb	21 @ 23
Turkeys, live gobblers, ₱ lb	17 @ 18
Turkeys, live hens ₱ lb	18 @ 20
Hens, California, ₱ dozen	4 00 @ 4 50
Hens, large	5 00 @ 5 50
Roosters, old	4 00 @ 4 50
Roosters, young (full-grown)	4 50 @ 5 50
Fryers	4 00 @ 4 50
Broilers, large	3 00 @ 3 50
Broilers, small to medium	2 00 @ 3 00
Ducks, old, ₱ dozen	4 50 @ 5 00
Ducks, large young, ₱ dozen	5 00 @ 7 00
Geese, ₱ pair	1 75 @ 2 00
Goslings, ₱ pair	2 00 @ 2 25
Pigeons, old, ₱ dozen	1 00 @ 1 25
Pigeons, young	2 00 @ 2 25

Butter.

The demoralized condition last noted as prevailing in the butter market continued into the current week. Good creamery butter of undesirable weights was sold to close cash buyers at 17½@18c. The same buyers secured the finest qualities for 22c. Considerable Eastern butter has been shipped back, prices being better on the Atlantic side than here.

Creamery, extras, ₱ lb	22 @—
Creamery, firsts	19 @21
Creamery, seconds	16 @17
Dairy, select	18 @—
Dairy, firsts	17 @—
Dairy, seconds	14 @—
Mixed Store	12 @14

Cheese.

While there are no heavy stocks of mild new, buyers are operating slowly at full current figures. Domestic flats are being drawn from cold storage and are giving fair satisfaction. Market for small cheese is ruling steady but rather quiet. Eastern cheese are higher at primary points, but held stock here is selling at old figures.

California, fancy flat, new	11½@12¼
California, good to choice	10 @11
California, fair to good	9½@10
California, "Young Americas"	10 @12¼
Eastern	11 @13

Eggs.

Fancy fresh eggs, in every way suited to the requirements of the most exacting trade, are in such light receipt as to be hardly quotable in a regular wholesale way. For very superior qualities as high as 52c. was realized, but this figure was not warranted as a regular quotation. Eastern and cold storage eggs are in liberal supply.

California, select, large, white and fresh	47½@50
California, select, irregular color & size	40 @45
California, good to choice store	27½@32½
Eastern firsts	23 @27
Eastern seconds	19 @21

Vegetables.

Most kinds of fresh vegetables in season were in fair supply, prices continuing at much the same range as previous week. Tomatoes were mostly of very ordinary quality. Onions are being quite firmly held; choice are expected to rule still higher in the near future.

Beans, Lima, ₱ lb	4 @ 5
Beans, String, ₱ lb	2 @ 3
Beans, Wax, ₱ lb	2 @ 3
Cabbage, choice garden, ₱ 100 lbs	65 @ 75
Cucumbers, ₱ box	30 @ 60
Egg Plant, ₱ box	30 @ 60
Garlic, ₱ lb	4 @ 4½
Okra, Green, ₱ box	50 @ 75
Onions, Yellow Danver, ₱ ctl	1 65 @ 2 00
Peppers, Green, ₱ box	25 @ 50
Rhubarb, ₱ box	75 @ 1 25
Tomatoes, box	20 @ 50

NOTE.—Large boxes are what are known to the trade as "pay boxes," which have to be returned or paid for. They are open top, with hand holes in the ends, and weigh when filled from 50@60 lbs gross. Small boxes are free boxes, about the same as the regular fruit box, weighing when full from 20 to 30 lbs. gross.

Potatoes.

The market was glutted with common potatoes, prices for which ruled low. Arrivals were largely from Sacramento River section. Choice Salinas Burbanks were steadily held. A few Oregon Burbanks arrived, the first of the season from that section. Sweets were in heavy receipt and market for same favored buyers.

Salinas Burbanks, ₱ cental	90 @ 1 30
River Burbanks, ₱ cental	40 @ 75
River Reds, ₱ cental	65 @ 80
Oregon Burbanks, ₱ cental	75 @ 1 00
Sweet Potatoes, ₱ cental	65 @ 90

Fresh Fruits.

In the line of deciduous fruits, Apples are the chief feature of the fresh fruit market at present. There were fairly liberal receipts the current week, largely from Oregon and Colorado, and in connection with the heavy arrivals of preceding week, gave the markot more than ample stocks for immediate needs. Most of the Apples represented prior arrival purchases by dealers, and there was in consequence very little undue selling pressure, although the market could not be termed firm, especially for other than strictly choice to select. Sales in a regular way over $1.25 per box were the exception and were confined mainly to select Oregon Spitzenberg. Pears were in rather light supply. Choice Winter Nelis were in good request and brought improved figures. Table Grapes in prime to choice condition were in very fair demand, with offerings only moderate, and

market was tolerably firm, especially for desirable shipping stock. Figs were in light supply, but being mostly of ordinary quality, received little attention. Strawberries were in reduced receipt and market for choice was quotably higher. Raspberries made a slim showing and such as were of desirable quality brought good figures.

Apples, fancy, ₱ 50-box	1 40	@	1 65
Apples, good to choice, 50-lb. bx	1 00	@	1 25
Apples, fair to good, ₱ box	60	@	1 00
Figs, Black, ₱ box	40	@	75
Grapes, ₱ box or crate	50	@	85
Grapes, large open boxes	1 25	@	1 75
Huckleberries, ₱ lb	5	@	7
Pears, Winter Nelis, ₱ box	1 25	@	1 75
Pears, Cooking, ₱ box	40	@	75
Persimmons, ₱ regular box	50	@	75
Pomegranates, ₱ small box	50	@	75
Pomegranates, ₱ large box	75	@	1 25
Pomegranates, fancy, ₱ large box	1 50	@	1 75
Quinces, ₱ box	40	@	60
Raspberries, ₱ chest	4 00	@	7 00
Strawberries, Longworth, ₱ chest	8 00	@	10 00
Strawberries, large, ₱ chest	2 50	@	5 00

Dried Fruits.

The market for cured and evaporated fruits has developed no pronounced changes the current week. Values for most kinds are being well maintained, however, at the current range, and in some instances are slightly firmer than previously quoted. There has been a free outward movement, particularly of Prunes. The four sizes are being now in the main held on the 1½@1⅝c bag basis. A sailing vessel clearing for London took 743,825 lbs. of this fruit. Other shipments of Prunes not previously noted included 69,500 lbs. by steamer Umatilla, 46,600 lbs. by steamer Queen, both for the North and 4,700 lbs. for Liverpool. Other shipments of dried fruit by the steamer Umatilla for the North, exclusive of Prunes and Raisins, aggregated 109,400 lbs., including 38,100 lbs. Apricots, 23,000 lbs. Peaches, 8,650 lbs. Apples, 8,450 lbs. Pears. Total dried fruit shipments by steamer Queen, exclusive of Raisins, were 94,500 lbs. To purchase freely of Apricots or Peaches an advance on quotations would have to be paid. Choice to fancy Pears are being very steadily held. There are not many Nectarines or Pitted Plums obtainable at any figure. Apples are in fairly liberal supply, and the same remark applies to Figs in bricks and cartons.

EVAPORATED OR BLEACHED.

Apples, 50-lb boxes, rings, pressed, good to choice	5½@ 6
Apples, extra choice to fancy, 50-lb boxes.	6 @ 6½
Apricots, Moorpark	8 @11½
Apricots, Royal, good to choice, ₱ lb	7½@ 8½
Apricots, Royal, fancy	9 @10
Figs, 10-lb box, 1-lb cartons	55 @60
Nectarines, Red, ₱ lb	6¼@ 6¾
Nectarines, White and Yellow	6½@ 7½
Peaches, unpeeled, good to choice	7¼@ 7¾
Peaches, unpeeled, fancy to extra fancy	8 @ 9
Pears, standard, ₱ lb	6¾@ 7¼
Pears, choice to fancy	8 @10½
Plums, Black, pitted	5½@ 6½
Plums, Red, pitted	6¼@ 8½
Plums, Yellow, pitted	6½@ 7½
Prunes, Silver, good to fancy	4 @ 7½

Prunes, in bags, 4 sizes. 1½@1¾c; 40-50s, 3¾@4c; 50-60s, 2¾@3c; 60-70s, 2¼@2½c; 70-80s, 1¾@2c; 80-90s, 1½@1¾c; 90-100s, 1@1¼c; small, ⅞@1c.

COMMON SUN-DRIED.

Apples, sliced	3½@ 4½
Apples, quartered	3½@ 4½
Figs, White, in bulk	2 @ 2½
Figs, Black	2½@ 4

Raisins.

Most of the deliveries from growers of new crop Raisins are on contracts. Packers are reported not generally bidding over 2c in the sweat box, although it is stated that in a few instances 2½c is being paid. A shipment of 106,400 pounds went forward to the north by steamer Umatilla, and the steamer Queen for same section took 30,000 pounds. Large quantities are going outward by rail, although there has been considerable delay in filling orders for new pack, owing to dampness of the stock.

CROP OF 1904.

(Fresno delivery except otherwise specified,)

London Layers, 2-crown, 20-lb box	90	@	95
London Layers, 3-crown, 20-lb box	95	@1	00
Fancy Clusters, 4-crown, 20-lb box	1 35	@——	
Dehesas, 20-lb box	1 85	@——	
Imperials, 20-lb box	2 25	@2	35

2-Crown Standard loose Muscatel ..... 3 @3½c
3-Crown Standard ..... 3½@3¾c
4-Crown Standard ..... 4¼@4½c
Seedless Thompsons ..... —@4 c
Seedless Sultanas ..... —@3 c
Fancy, 16-oz. Seeded 5½c
Choice, 16-oz. Seeded 4¾c
Fancy, 12-oz. Seeded 4⅞c
Choice, 12-oz. Seeded 3⅞c
Bleached Sultanas, Woodland Dist., 50s ..... 4¼@4¾c
Bleached Thompsons, Woodland Dist., 50s ..... 4½@7½c

Citrus Fruits.

New crop Oranges are arriving quite freely and late Valencias are still on market. A heavy shipment of new will be made to Australia, per steamer Sierra, scheduled to sail to-morrow (Thursday). Local demand is fair. Choice to fancy Lemons are in light stock and market is firm. The Lime market is quiet and without special change; offerings mainly Mexican.

Oranges, New Navels, ₱ box	3 00	@3	50
Oranges, Valencias, ₱ box	3 50	@4	50
Oranges, Cal. Tangerines, half box	1 25	@1	50
Lemons, California, select, ₱ box	2 75	@3	25
Lemons, California, good to choice	2 25	@2	75
Lemons, California, fair to good	1 25	@2	25
Grape Fruit, ₱ box	2 00	@3	00
Limes, Mexican, ₱ box	4 00	@4	50

Nuts.

There is a very fair movement in Almonds, which are mostly in second hands, with stocks of good to choice rather light and they are being steadily held. Heavy shipments of Walnuts are being made outward, and for No. 1 stock the market is firm at ruling rates.

Chestnuts, Cal., ₱ lb	6 @ 9
Nonpareil Almonds	13 @16
I X L Almonds	12½@14
Ne Plus Ultra Almonds	12 @13
Languedoc Almonds	9½@10½
Shelled Almonds, ₱ lb	18 @22
Peanuts, fair to prime	5½@ 6¼
Cal. Walnuts, No. 1 soft shell	12 @12½
Cal. Walnuts, No. 2 soft shell	10 @10½
Cal. Walnuts, No. 1 hard shell	11½@12
Cal. Walnuts, No. 2 hard shell	9½@10

Wine.

Already there has been some trading in this year's dry wine. A transfer of Solano county product, Cordelia section, is noted at 14c., San Francisco delivery. Although the wines are of lower average than last year, prices are expected to rule about the same as for last season's product. Some growers have been notified that their wine would be taken at same figures as paid last season. The steamer City of Para, sailing Saturday last, carried 164,383 gallons and 12 cases wine, including 163,856 gallons for New York. Receipts of wine at San Francisco last week were 358,975 gallons, and for preceding week were 246,325 gallons.

Produce Receipts.

Receipts and exports of leading cereals and other California products for the past week and for the season to date, as compared with the corresponding time the previous year, are as follows:

FOR THE WEEK.		Since July 1, 1904.	Same time last year.
Flour, ¼ sks	123,819	1,900,873	2,221,393
Wheat, ctls	73,474	1,118,074	813,531
Barley, ctls	136,294	1,505,261	3,285,432
Oats, ctls	29,052	497,475	543,643
Corn, ctls	9,273	56,537	52,142
Rye, ctls	878	22,173	26,698
Beans, sks	42,884	238,541	382,979
Potatoes, sks	30,695	446,858	459,679
Onions, sks	2,779	60,051	78,625
Hay, tons	3,699	83,182	87,905
Wool, bales	1,612	32,549	28,511
Hops, bales	687	24,202	18,921

EXPORTS BY SEA.

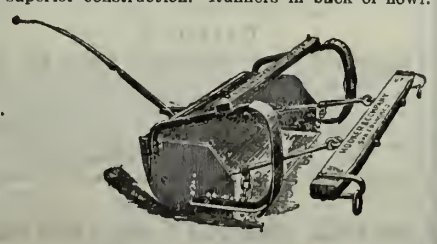
FOR THE WEEK.		Since July 1, 1904.	Same time last year.
Flour, ¼ sk	229,840	1,506,500	1,566,372
Wheat, ctls	68,426	209,270	338,545
Barley, ctls	122,317	777,808	2,635,059
Oats, ctls	3,405	10,240	10,114
Corn, ctls	3,322	26,306	6,525
Beans, sks	1,095	26,685	14,614
Hay, bales	8,309	58,822	66,180
Wool, lbs		809,532	1,469,264
Hops, lbs	6,954	132,663	293,928
Honey, cases	16	664	2,608
Potatoes, pkgs	2,309	38,027	33,525

A New Book on Poultry Feeding.

The literature of the poultry yard is multiplying rapidly. The latest book is "Poultry Feeding and Fattening," by George B. Fisk, published by Orange Judd Co. It is a handbook for poultry keepers on the standard and improved methods of feeding and marketing all kinds of poultry. The subject of feeding and fattening poultry is prepared largely from the side of the best practice and experience here and abroad, although the underlying science of feeding is explained as fully as needful. The subject covers all branches, including chickens, broilers, capons, turkeys and water fowl; how to feed under various conditions and for different purposes. The whole subject of capons and caponizing is treated in detail. A great mass of practical information and experience not readily obtainable elsewhere is given, with full and explicit directions for fattening and preparing for market. Though written from an Eastern point of view, the book has many suggestions which are locally applicable. The book may be ordered from the PACIFIC RURAL PRESS for 50 cents per copy, postpaid.

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STILL HAVE FAITH IN PRUNES.—San Jose Herald: "It may surprise you to know that, notwithstanding the depressed condition of the dried prune market, a good many people will plant prune orchards during the present season," said Morgan Miles, a well known nurseryman to-day. "They reason this way: that the present depression is only temporary, and as it will take from five to six years for a new orchard to come into bearing, that the conditions will have become settled by that time. They also believe that while prunes are now so low that many of the older orchards will be neglected until they become worthless and will be dug up. It is a fact that a few old prune orchards in the valley are now falling victim to the axe and the stump puller. However, as far as my observation goes, these trees are so old as to have practically outlived their usefulness. Cherries, peaches and apricots, for those whose lands are suitable, are, however, most in favor. The high prices which obtained for these fruits, and especially for cling peaches, have caused a brisk demand. Stocks are light in both cherries and choice peaches and last year's prices will be fully maintained. Apricot trees are now quoted at $15 per 100 or $125 per 1000. Peaches command from $15 to $20 per 100 for freestones with choice clings at $25. Bartlett pears are also in good demand and command about the same figures as last year, say $15 per 100 or $125 per 1000."

AT the poultry show at the St. Louis Exposition, seven of the twelve White Leghorns sent by C. B. Carrington, Haywards, Cal., were prize winners. Those birds and their ancestors were raised in Haywards, and though handicapped by nine days' heated transit from there to the St. Louis grounds, made a fine showing for California poultry.

New Patents.

DEWEY, STRONG & CO.'S SCIENTIFIC PRESS PATENT AGENCY, 330 Market St., S. F., has official reports of the following U. S. patents issued to Pacific coast inventors:

FOR THE WEEK ENDING OCTOBER 25, 1904.

773,450.—MAKING ALLOYS—R. S. Anderson, Seattle, Wash.
773,118.—SAW—W. W. Carter, Ballard, Wash.
773,531.—DOOR OPENER—J. F. Connell, Los Angeles, Cal.
773,379.—CATTLE GUARD—W. Dobler, Sumner, Wash.
773,315.—PENCIL SHARPENER—R. J. Ellis, S. F.
773,488.—OIL BURNER—C. B. Elimirt, S. F.
773,281.—CONTAINER—W. E. Everette, Tacoma, Wash.
773,203.—BLOWPIPE—E. H. Fosdick. Los Angeles, Cal.
773,391.—FRUIT GATHERER—F. D. Henrickson, Amboy, Wash.
773,293.—FRUIT PICKER—J. B. Marshall, Fresno, Cal.
773,337.—DREDGER—R. A. Perry, Oakland, Cal.
773,221.—SLIMES WASHER—L. E. Porter, Camp Rochester, Cal.
773,222—SLIMES WASHER—L. E. Porter, Camp Rochester, Cal.
772,964.—MEAT TENDERER—G. R. Sackett, Fenelon, Nev.
773,526.—ADVERTISING DEVICE—L. L. M. Salsbury, Fruitvale, Cal.
773,429.—BRIDLE BIT—H. A. Sievert, Walla Walla, Wash.
772,976.—CAMERA—A. L. Swartz, Junction City, Or.
773,437.—LOG TURNER—E. E. Thomas, Tacoma, Wash.

PATENTS

Our U. S. and Foreign Patent Agency presents many and important advantages as a Home Agency over all others, by reason of long establishment, great experience, our Washington branch which tends *exclusively* to our business before the Patent Office, intimate acquaintance with the subjects of inventions in our own community, and our most extensive reference library, containing official American reports since 1790, with full copies of U. S. Patents since 1872. All worthy inventions patented through DEWEY, STRONG & CO.'S Patent Agency will have the benefit of a description in the *Mining and Scientific Press*. We transact every branch of patent business, and obtain patents in all countries which grant protection to inventors. The large majority of U. S. and foreign patents issued to inventors on the Pacific Coast have been obtained through our agency. We are conservative and counsel preliminary examinations in cases of doubtful novelty. Guide to inventors sent on request.

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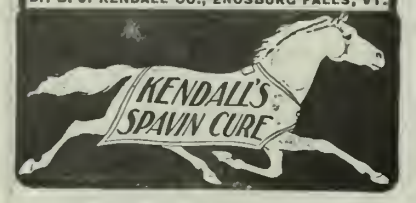
Bleecker, N. Y., Jan. 24, 1904.

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CORRESPONDENCE.

Owens Valley.

Written for the PACIFIC RURAL PRESS.

Two causes are conspiring just now to bring into prominence a section of the State that hitherto has received little attention, but withal has the elements of prosperity in larger measure than many of the older communities. To the Owens river valley nature has been lavish of her best gifts—soil, climate, water and scenery. The events that are bringing this section into prominence are, first, the probability that the Government will take up the work of a storage reservoir and canal system that will reclaim some 260,000 acres of land which is beyond the reach of private enterprise. For a year past a corps of engineers have been measuring the river, streams and mountain lakes. Their report is now before Secretary Hitchcock and is understood to be entirely favorable, while the cost will be only $1,000,000—less than requined for any other system now in contemplation. A few days ago a diamond drill was shipped to the proposed damsite to test the bedrock, and there seems to be a well-founded hope that the work may begin within a year.

The other—and no less important—event that is turning all eyes toward Owens valley is the remarkable finds of rich ore now being made on the desert from Tonopah south. These camps furnish a market ready at hand for the farmers' products and at the same time make it almost imperative that the railroad be broad-gauged and continued to Mojave, giving direct and speedy connection with coast points.

From Benton on the north to Keeler on the south, a stretch of 100 miles, the Sierra Nevadas rise in one unbroken column, barricading the valley's western slope with a serried chain of ragged peaks, crowned with perpetual snow and ice, terminating at the southern end with Whitney's splendid peak, 15,086 feet in height. Magnificent as is its height, it yet does not stand out perceptibly above its fellows, Mount Williamson, a few miles to the north, being but 90 feet lower.

From this vast reservoir of snow and ice innumerable mountain lakes are supplied, which in turn feed perpetual streams of pure mountain water, each one of which as it touches the valley below is diverted to the needs of agriculture, and along its banks are clumps of trees, each encompassing a thrifty ranch house in the midst of its fields of alfalfa, corn and wheat.

On the other—the eastern—slope the Inyo mountains separate the valley from the desert, which stretches away to the east and south through Nevada, Arizona and southern California, encompassing that sinkhole of desolation, Death valley. Not that the latter spot is as bad as it is generally painted, or has not its redeeming golden features. But that is another story.

The valley ranges in width from 5 to 15 miles. Through its entire length flows the Owens river, a considerable stream, which empties into Owens lake at the valley's southern extremity, on the shore of which is Keeler, the terminus of the Carson & Colorado Railway, a narrow gauge, taking off from the overland Southern Pacific Railroad at Moundhouse, near Carson, 300 miles to the north.

The approach from the south is by stage from Mojave, a distance of 120 miles, covered in twenty-two hours' steady travel three times a week each way. Another alternative is by way of Kramer, on the Santa Fe, to Johannesburg, thence 130 miles by stage via Ballarat and Darwin, stopping each night and requiring three days for the journey.

With such difficulties as these barring ingress, it is not difficult to see that few penetrated to this remote valley, and those who did generally never got out. From John Shepherd, who settled here as a young man forty-one years ago, now the patriarch of the valley, to dozens who have lived here thirty years, scores fifteen, and hundreds born and reared in its confines, there are not tens of recent settlers. These old settlers have fought their battles alone since the Government quelled the Indians for them, and their victories have been those of peace. Plenty to eat, drink and wear and money in the bank is the rule, not the exception.

The valley proper embraces about 500,000 acres of land. The present population is mostly confined to a district about 60 miles long from about 25 miles south of Benton to 15 miles north of Keeler. Perhaps about half of the valley is susceptible of irrigation under the present ditch systems from the river and the mountain streams. Of the remainder, 200,000 acres are held and 60,000 open to settlement, which, now almost worthless, by the Government construction of irrigation canals and storage reservoirs will become tillable, well adapted to alfalfa and fruit, and in some respects better than the river bottom land, which in spots is badly tinctured with white alkali.

A vast amount of alfalfa hay is now produced, which is finding a ready market at good prices for the mining camps of Tonopah and Goldfield. Also great numbers of cattle, sheep and horses are raised, which likewise find a ready market, while many carloads of the finest honey are annually shipped out to San Francisco and Los Angeles.

The rush to the mines has so congested the freight traffic to the north that the business of the lower valley people has suffered materially for several months past. But this will prove of lasting benefit in the end if, as seems extremely probable, it results in broadening the gauge of the railroad and its extension to Mojave to connect with Southern Pacific line to Los Angeles. This would give immediate relief, bringing Los Angeles within ten hours' ride, and would stimulate every industry in the valley to greater activity. Dairies would then have unrivaled opportunities in the supply of that great market, and it would mean the doubling of population in a very short time.

Land which is now held at from $25 to $75 per acre would immediately appreciate in value, and would be farmed more intensively.

The neighboring mountains are generally utilized for summer pasture, from which the stock comes out fat and sleek with the first snowfall in the foothills. Alfalfa pasture carries it over the winter months, while a few months of stall feeding turns out the finest quality of beef and mutton.

The floor of the valley is from 3000 to 4000 feet above sea level. Occasionally snow falls, but does not remain, and although rainstorms can be seen almost any day in the mountains they rarely visit the valley.

From Independence, the county seat of Inyo county, the Kearsarge trail leads through a pass in the Sierras to Kings River canyon, which is 25 miles distant, and the trail continues through the mountains to Visalia, in the San Joaquin valley.

Numerous mines have been discovered along the valley, among which is the Kearsarge, first opened up in the early sixties, and now about to be reopened by modern methods. The Reward mine, near Independence, the Poleta and Casey, near Bishop, are all either working or about to resume. while others are soon to be developed which give promise of being great producers.

Bishop is at present the center of population, and about it are fine ranches. An air of thrift and prosperity pervades the community. It is, nevertheless, a fact that the methods are yet, as might be expected, somewhat primitive, and the impulse of new life that closer communication with the outside world will bring will be of great benefit to the valley.

Near Keeler is located a plant for the manufacture of carbonate of soda, obtained by evaporating the waters of the lake. Great quantities of this product are produced annually.

In the Saline valley, east of Big Pine, over the Inyo range, is said to be the finest deposit of salt in the world, where the waters of a lake, but a few inches in depth, deposit a layer of pure salt that can be scraped up with teams every fifteen days. Although inexhaustible in quantity and perfect in quality, owing to transportation costs it is utilized as yet only to supply the local market of Owens valley.

A serious inconvenience to the valley towns is that, while they are all located on the western side, near the foothills, the railroad chose the eastern side. leaving them all from 3 to 5 miles off the line. As yet the eastern side of the valley is but sparsely settled, there being no streams from the Inyo mountains until they merge into the White mountains, east of Bishop. The latter are snow-covered and contribute to make the valley productive almost its entire width at this point.

The streams and lakes are all stocked with trout, making these foothills an angler's paradise, while there are also to be found quail, grouse and ducks in abundance, and deer, which are driven out of the mountains in the autumn by the snow and range along the foothills.

If the Government and the railroad lend their assistance to Owens valley, it will take rank at once with the most favored sections of California, with its natural scenery of surpassing beauty, healthful and invigorating climate and business advantages. Failing in this assistance, it will continue to sleep for years, content to exist in comfort, cut off by its mountains and deserts from the bustle and life of the world that surges around it.

Bishop, Inyo Co., Cal., Oct. 25.

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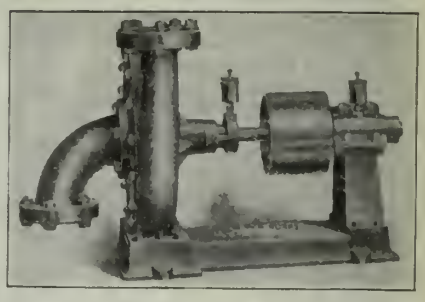
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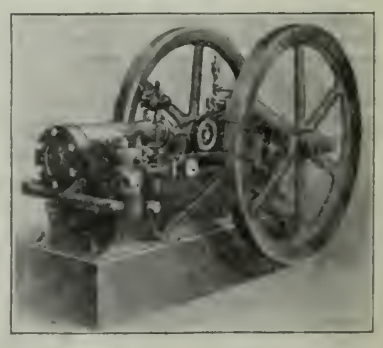
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SHEEP AND WOOL.

An Angora Inquiry.

TO THE EDITOR: — May I ask you the courtesy to print this letter in your earliest issue possible? It may be of more than ordinary interest to the Angora raising part of your readers.

Busy with my report to the Bureau of Animal Industry on the experiences of my South African trip, and in order to make comparisons, I would like information on the following points:

1. Have any of your breeders observed the development of the undergrowth, called by the manufacturers "noil," viz., a downy undergrowth of mohairy character? Does this with any of their goats show a tendency to increase in length and thickness from generation to generation, becoming mohair finally? If so, how many generations does it take to breed it out finally? Are any absolutely free from noil?

2. Have they any kids which do not lose the dead, lusterless hair with which they are born? If so, do they retain it all over their bodies or only in places? If so, where? How does it develop later on?

3. In South Africa Angoras do not change their teeth exactly with the year. They get their yearling teeth as our goats do when about fifteen months old, but become four-toothed at about twenty-two months old, six-toothed at twenty-seven or twenty-eight months and full-mouthed at thirty-eight or thirty-nine months. How near to that do we come in the different parts of the United States?

4. What percentage of your goats have mohair on their tails, and how far towards the point does it extend? How far is it real mohair and how far has it the character of noil? How much of the tail has still some of the coarse, ordinary tail hair? Are any of your Angoras with absolutely pure mohair tails? If so, what percentage of your flock?

5. How many of your goats have mohair on their hindlegs down to the hoofs? In how many will it grow in real curls all around the lower part, especially behind, and how long?

6. The same questions on forelegs.

7. How many goats have mohair growing rather like ropes or round braids than like curls?

8. How many goats have mohair of a woolly appearance, and to what influences do you ascribe it? Or gummy and oily mohair, and how do you account for that?

9. Will you please send me samples of all the above described classes and types of mohair?

10. How many of their goats have mohair on their ears, and if so, to what point does it grow down? To one-fifth, one-fourth, one-third, one-half of the ears or still lower down?

11. What is your percentage of non-shedding goats which grow hair like sheep's wool? What class of goats are they?

12. What percentage of twins or triplets do you get? And what would you do to increase such prolificness?

13. Under different conditions the time of gestation or pregnancy appears to be of different duration. It is said to vary between 147 and 155 days. What period is predominant with you? And what causes the difference, natural inclination of the does, altitude, climatic or nutrimental conditions?

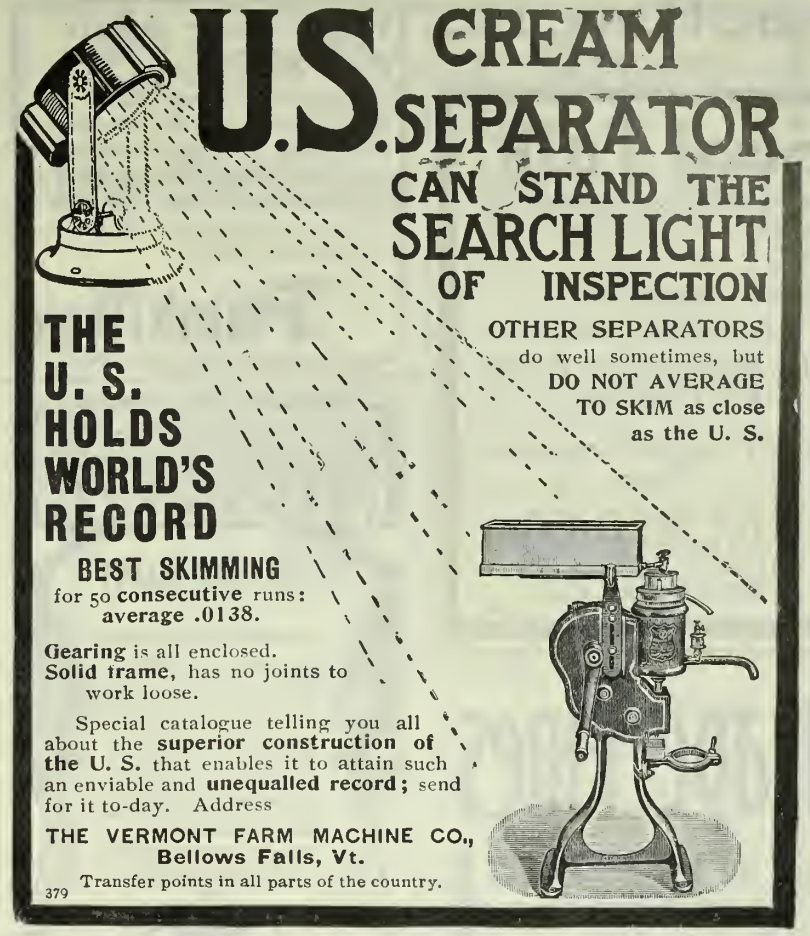
14. On which side of their backbone do you usually find with ridges the hidden seed, and if it occurs on both sides, in what proportions? How do you operate it?

For giving the desired information, as well as for printing this letter, I give my sincerest thanks in advance both to you and your readers. Yours truly,

G. A. HOERLE.

Chester, Vermont.

These questions are very interesting and important. We trust our goat-breeding readers will send answers to Mr. Hoerle at the address named.



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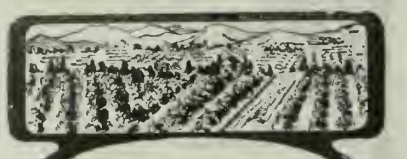
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THE IRRIGATOR.

Equitable Distribution of Water.

By Prof. S. Fortier of the University of California at the Modesto Irrigation Convention.

I may possibly point out a few of the mile posts which mark the progress of irrigation in the mountain States. From the start the way has been beset with great difficulties, and there may be a lesson for us in learning how these difficulties have been at least partially overcome and a certain measure of success has been attained. The first irrigation laws of most of the arid States were modeled after those of California. The younger commonwealths to the East regarded California in the light of an elder sister, and so it is not surprising that their methods, customs and laws should resemble those of the older State. Some are in this condition yet, but others have made many changes from the old miners' law of half a century ago, and have adopted administrative systems not unlike the older irrigated countries of Europe.

A Colorado Problem.—During an excessively dry season in Colorado thirty years ago the lower irrigators on some of the streams in the northern part found themselves in a predicament not unlike the tenderfoot on Pike's Peak. There was any amount of air all around him, but he could not get it. It was so with many irrigators in regard to water. All of the flow of such streams as the Cache la Poudre and the South Platte was diverted by the upper irrigators. After five or six years of agitation a law was passed which provided for the adjudication of water rights and the apportionment of the streams in accordance with the decrees of the courts. The passage of this act by the Colorado Legislature marked a new era in that it provided for the appointment of State officers charged with the important duty of supervising the distribution of appropriated waters. The people of Colorado almost to a man have never regretted this action on the part of their legislative assemblies of 1879 and 1881. They regard their administrative system as the best features of their irrigation code. Though small and insufficient at first, it has gradually grown, both in authority and numbers, until there are something like eighty trained and experienced men in the employ of the State, whose chief duties are to protect the irrigators in the exercise of their rights and at the same time to obtain the greatest possible returns from the limited water supply.

Water Rights.—Let me now turn your attention briefly from the success of Colorado's administrative system to the grievous failure that was made in the settlement of the water rights. At that time, from twenty to twenty-five years ago, water had little value, few measurements had ever been made of the ditches and canals and irrigators had but a vague conception of how much water their ditches carried. It was at such a time that the referees appointed by the courts undertook to adjudicate the priorities. In the absence of all accurate data they were forced to rely upon the testimony of interested witnesses, and the proprietors of the canals were sure to err on the safe side in guessing at the volumes appropriated. Water claimants often received ten times more water than they could use and from two to five times more than their ditches would carry. In this crude way, and without any reference to beneficial use or to the extent of land watered, but solely on the conjecture of how much water the canals carried, much of the available water supply of Colorado was deeded away. The pernicious effects of this grievous mistake, which was made by men of ability and integrity, who thought they were acting in the best interests of the State, can never be wholly eradicated.

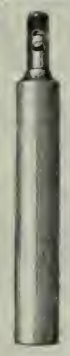
Wyoming's Achievement.—Wyoming in adopting an irrigation code embodied the good provisions of the Colorado laws, but rejected the bad. The administrative system of Wyoming was patterned after that of her sister State, but in making appropriation, in establishing priorities and in distributing the flow to the rightful claimants, every possible safeguard was placed about the public streams. You are all more or less familiar with the Wyoming law, so I need not state any of its provisions. Permit me instead to mention in the briefest possible manner a few of the things it has accomplished.

In the first place, it has kept tab on the discharge of the streams and prevented overappropriation, which has been the cause of so much litigation in other States. When a stream during the highest flow of the irrigation season is wholly appropriated, further permits are refused. In the second place, the water user who receives a certificate from the State for a definite volume of water has every confidence in its validity. He regards this title in pretty much the same light that he does the deed to his homestead. Besides, he has to pay very little for it. Five thousand certificates have been issued at an average cost to the recipients of $12 each. In the third place, he is seldom obliged to travel half a dozen miles from the field which he is irrigating to find out the particular thief or thieves who have diverted and are utilizing his irrigation stream. The State sees to it that he is protected in his rights. For fourteen years Wyoming, through competent State officers, has measured the natural and artificial water channels, surveyed the areas of lands irrigated in the respective holdings, determined the quantity of water that rightfully belonged to each claimant, and has protected them in the economical use of that quantity. All of these highly beneficial measures have been secured for an average yearly expenditure of about $10,000.

Control in Other States.—The States of Nebraska, Idaho, Utah and Nevada now exercise supervision and control over the public streams within their respective boundaries in a manner similar to Colorado and Wyoming. These four States have adopted all of the essential features of the Wyoming code. Provision is made for the same care and supervision in the appropriation of the water, so that it is no longer possible to lay claim to a river and only use sufficient water to irrigate a garden. Provision is likewise made for the settlement of water rights, not so much on the basis of conjectured testimony as upon well-established facts obtained by disinterested State officers.

About a month ago I had occasion to visit a thickly populated region

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watered by the Weber and Oregon rivers of Utah. Wherever I went I found a recently constructed rating flume, or weir, near the head gate of every ditch and canal. These measuring devices had been installed for the purpose of measuring the volumes carried by each channel. There were also several parties in the field measuring the area of land which was watered by each ditch. The collection of this field work will be carried on for about two years in the basin named, and at the end of that time the State will have in its possession the fundamental facts necessary for the settlement of rights. According to the law passed in 1903, the State engineer files the data collected by him and his deputies with the county clerk. Each water claimant must then present to the clerk a complete statement of his claim to water, after which the entire number of rights, amounting in this case to nearly 2000, will be adjudicated and decrees rendered.

Prior to the passage of this act an irrigator could only obtain a decree for a water right at the end of a costly lawsuit, and quite frequently the decree was of no practical benefit because there was no one to force it. When others deprived him of the water required for his crops he was compelled to suffer the loss or resort a second time to the courts for redress. Under the new law the State will protect him in his rights by men appointed for that purpose.

In Utah.—In making a study of the river basin of the Weber river in Utah a singular condition has been discovered. At one time during the past season the discharge of the water at the point of maximum flow was 120 cubic feet per second. On the same date there was being diverted and utilized a volume of water aggregating 600 cubic feet per second. These figures show conclusively that water can be used over and over again in irrigation. It also shows the futility of apportioning the flow of a stream on a purely theoretically basis. In dealing with an element like water, much must be left to the good judgment and common sense of the administrative officer. Wherever it can be shown that diversions in the upper reaches of a stream tend to reservoir a part of the flood flow and make it available for irrigators located on the lower reaches at a later period, permission should be granted for such diversions.

In this brief summary of twenty-five years of irrigation progress in some of the Rocky Mountain States, there would appear to be at least three features essential to the permanent prosperity of every community dependent on irrigation. These are: The necessity of limiting each appropriator of water to the quantity which he can put to a beneficial use; a cheap and efficient system of determining rights to the use of water, and a well organized and experienced corps to supervise and apportion all appropriated waters. In all of these essentials California is lacking.

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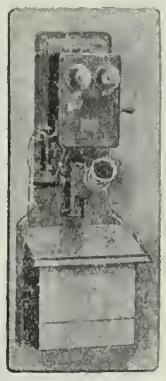
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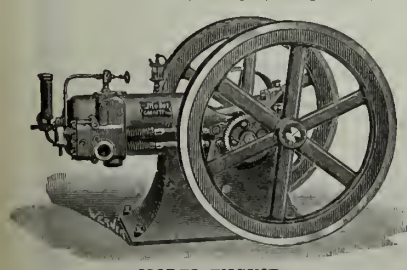
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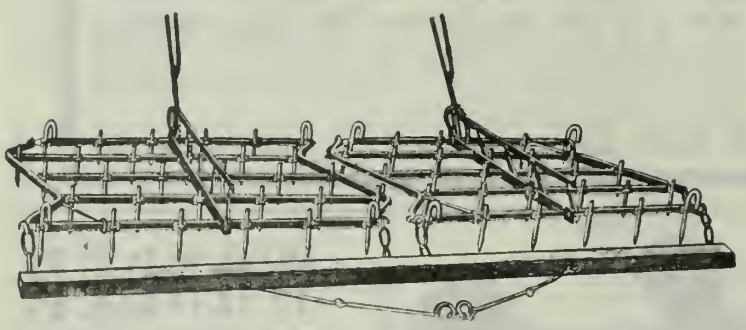
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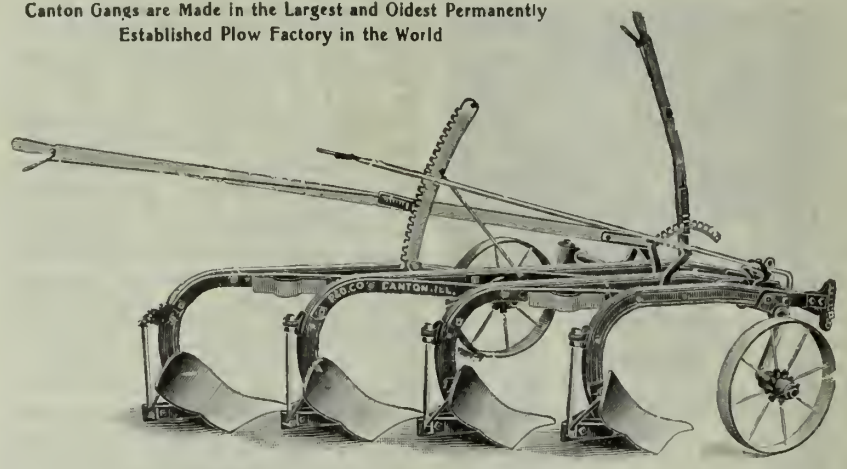


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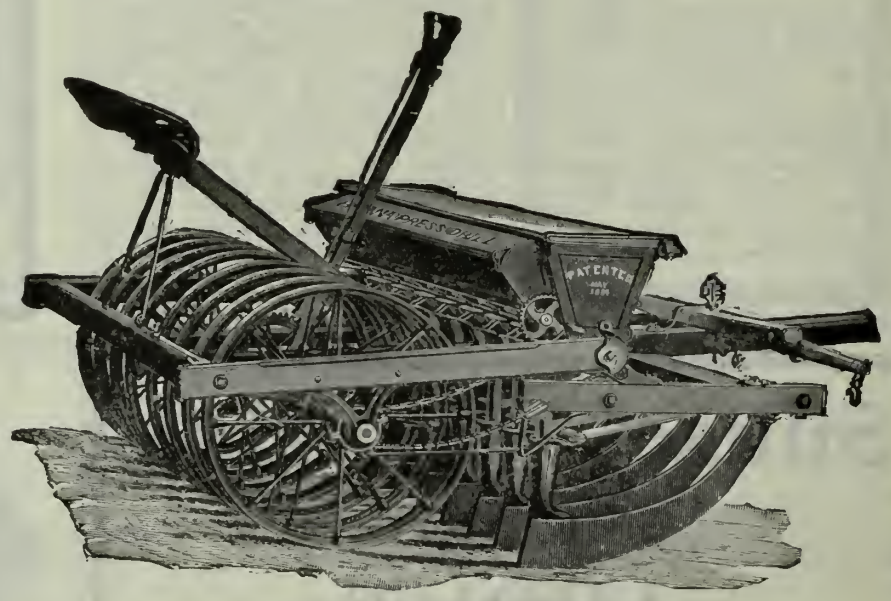
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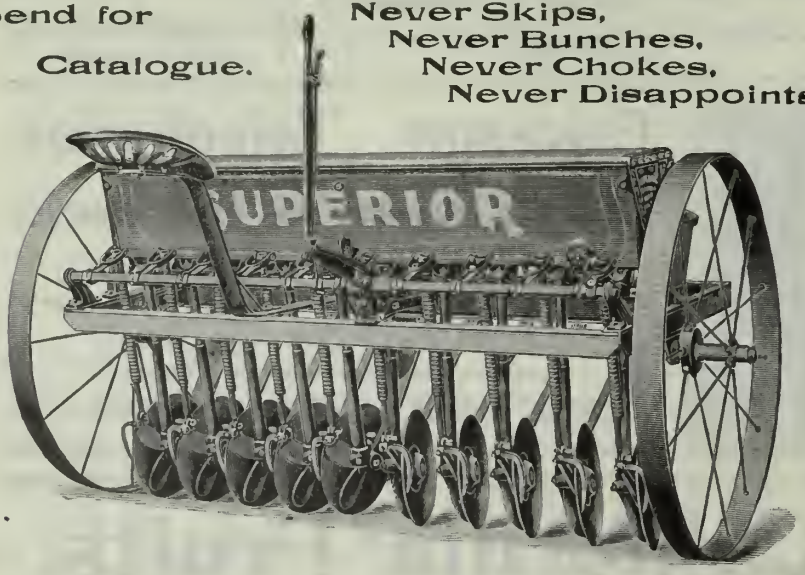
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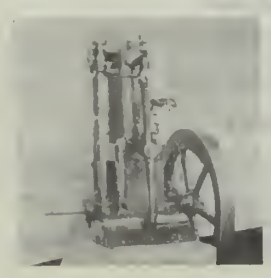
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The Cactus Family.

We have on this page an interesting group of cacti set forth to illustrate the excellent essay by Mr. Ernest Braunton, instructor in horticulture at the Preston School in Amador county, which may be found upon a following page of this issue. Mr. Braunton is a horticulturist of much breadth of observation and experience and is talented along the lines of horticultural writing and speaking, all of which qualify him for the important educational position which he holds. He was for many years a resident of southern California and did very creditable landscape architecture for both private and public clients in that part of the State, and he did much to disseminate better standards of taste by his paper and addresses at public meetings. His affection for the cactus family is only one of his horticultural passions and yet he writes of cacti with the enthusiam of a devotee. We are glad to present Mr. Braunton's sketch to our readers. Not only because of the wonderful variety and uniqueness of this group of plants, but because our coast is naturally so rich in their forms, the cactus family should be better understood and appreciated by California plant growers. Collections appeal strongly to those who enter upon their possession and the "Arizona Garden," as the cactus corner is often called, should become even more popular in California home making. The great collections at the leading resorts and in the California parks are a constant attraction to visitors, and some of smaller collections are a great delight both for wonderful forms and marvelous blooms.





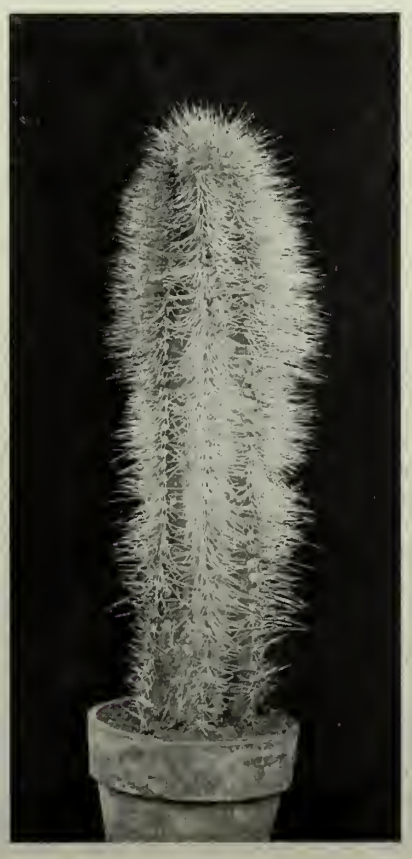
Strange Forms of a Common Cactus—Opuntia Lindenheimeri.



The Giant Cactus of Arizona—Cereus Giganteus.



Rare Form of Nigger Head—Echinocactus Trollieti.



Pilocereus Schottii.



An Unusual Form of Opuntia Ramossissima.

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E. J. WICKSON. ..... Horticultural Editor

SAN FRANCISCO, NOVEMBER 19, 1904.

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The Week.

Since our last issue the northern half of the State has had a good rain amounting to a good part of an inch in some places and serving well, over the whole of the vast area indicated, to maintain field work which was needing just such a remoistening of the surface. The southern districts are still waiting for a good soaking, which should not be long delayed. Days and nights are bright and warm for the season, as some valleys have not yet received their first touch of frost. The clear skies and bright moon are doing their best to compensate for the shortening days, and we do not remember a year in which the late autumn better merited the name of California's springtime than it does this year. The Eastern contrast appears sharply, too, because since our last issue a blizzard has covered the whole Northeastern States from Chicago to the Atlantic and for a time closing in the great Atlantic cities from communication with the interior because of prostrated telegraph lines and snow-bound railway trains. What a difference there may be between two sides of a thing! And the United States is a good instance of it.

Markets are a little slack and low this week. Speculative wheat has fluctuated considerably at Chicago, but on the whole the sags have been about balanced by the advances. Here wheat futures are however a fraction off, while spot wheat is unchanged. There has been some movement in grain; two cargoes of wheat and three of barley have gone out—one of the latter being Chevalier for Australia. One prior-to-arrival charter has come in at 22s 6d, which is high, for one ship has come in from Portland with a spot charter at 20s, and the nominal rate here is only about 17s, and ships going out in ballast to seek better employment at other ports. Barley is firm but unchanged and minor cereals are about the same. Corn, principally Eastern, is going from here to Central America. Beans are unchanged; irregular values for wet beans, firm for dry and Limas rising. Bran and middlings are a trifle firmer, but unchanged; there is some expectation of a demand from dairymen who wish to correct the softness of the butter now coming from straight feeding of fresh grass. Hay is slow; receipts are slight, but the demand is also slight. Choice beef is firmer, mutton unchanged, while lamb and pork are firmer—choice hogs going to 5 cents for packing. Butter is in bad shape and low in price; probably some will go East and give relief, but shippers bid rather low. Cheese is easy and unchanged and holders anxious to close out. Eggs are easier. Poultry is generally improved and the outlook good for high prices next week unless the advance checks consumption too much. Potatoes are no better and stocks of common river potatoes large. Onions are still firm and unchanged. There are heavy stocks of apples, and importing dealers said to be losing money. There is a fair supply of new oranges and some of them quite ripe and selling well. Lemons are firm and stocks light. Dried fruits are in good shape. Prunes are firm and the movement large, one steamer taking 2,000,000 pounds for Germany. Raisins are higher—said to be 3 cents and up in the sweat box. Dried apples are about the only weak thing on the list. Choice nuts are firm. Honey is quiet—firm for choice white and weak for lower grades. Hops are stiff. Wool is strong and no quotations made here. Buying ahead is free, and in South America prices are said to be 7½ cents ahead of last year.

The Irrigation Congress is on at El Paso as we go to press and early reports indicate many strong features. The Presidents of the two sister republics sent messages. President Diaz of Mexico declares great interest in the event, while President Roosevelt uses some more of his strong words in favor of irrigation development. He said irrigation and all other interests of the country were interlaced, as irrigation would make the West prosper, and if the West prospered it would cause other sections to prosper as a result. This declaration is commended to some narrow-minded Eastern journals and organizations which are trying to scare their constituencies with a bugaboo of an irrigated West as a menace to Eastern prosperity. President Roosevelt is too broad a man to be caught in any such narrow economic aperture. But he also has a warning, which is a good one to heed, in these words: "The best use of the public land is that made by the man who has come to stay. You should make yourselves the guardians of the future and prevent the waste of the great National resources of the country." Governor Pardee made a stirring speech for California, for which we hope to find room in our next issue.

We have a letter from a Placer county reader, sending a copy of the resolutions adopted at the fruit growers' meeting, which we criticised, and asks us to tell the readers of the Pacific Rural Press if we find anything in the resolutions aimed at promotion, except as related to increasing the numbers of fruit growers. We are frank to say that that is the only thing specified in the resolution; but that does not matter. We were not criticising the resolutions. We were protesting against the attitude of the meeting, as set forth by the free talkers they had there, which was not, perhaps, against the coming of more people as such, but was an exhortation to do evil in one way that good might come in another. The meeting was to blame because it allowed itself to be electrocuted with that kind of oratory. But, then, what is the use of talking more about it? The Placer county congregation has changed its attitude and that was all we aimed at in criticism. They are now on a clear line of legitimate effort toward an end eminently to be desired, and have our earnest approval.

The discussion on wheat improvement is drawing in all the wise men of the West and we are glad of it, because, though some of their guesses are wild, they will help in the agitation of the subject which will reach desirable ends. For example, Col. John P. Irish, for whom we have the greatest admiration and respect, takes a header into the subject in this way at the last meeting of the State Board of Trade. He is thus reported:

He said he had observed that the farmers in California would harvest their crops with a header which nipped off the portion of the wheat bearing kernels and left the straw in the ground. The heads would then at once be sent to the machine, threshed out and sacked. In the Eastern States, where the kernels have a larger proportion of gluten, the crop is cut from the ground with a reaper, bound, stacked and allowed to season before being threshed out. In order to test his theory he says he has made arrangements with a person who will cut half his crop with a header and send it at once to be threshed out and will use a harvester on the other half. The ground is identical and all conditions, aside from the reaping and sacking, will be equal.

Now this isn't bad and we shall be glad to know the result of the experiment. The trouble, however, with Col. Irish's analogy is that conditions East and West are not the same. The wheat in this State is allowed to stand generally until all the strength has gone from the stalk into the head. It must be very mature before the combined harvester will work well with it. Early cut grain does give something to the kernel from the stalk after cutting, but we imagine the California kernel gets it all before it is cut. However, let's wait and see how it comes out.

QUERIES AND REPLIES.

Squirrel Plague—Morning Glory—Vine Pruning.

To the Editor:—Did the students of the University start this squirrel plague, two years ago, which did such wonderful work for Contra Costa and Alameda counties in exterminating the squirrel?

Is there any preparation that will destroy the morning glory?

Does late pruning prevent the young growth of grape vines being frost bitten, or is it not due to the season?—Farmer, Walnut Creek.

The University people had nothing to do with the so-called "squirrel plague" in Contra Costa and Alameda counties. They did not distribute any germs of such disease. There was a distribution by private parties of what is called "Squirrelin," which was held to contain the germs of a contagious disease. This was sold, or perhaps given away for experimental purposes, by the Pasteur Vaccine Co., which has an office in San Francisco. It is not determined, however, whether the disappearance of the squirrels in your region was due to that or to some other cause. It is all a matter of conjecture. Whatever it may have been, the University can claim neither credit nor blame for it.

There is no preparation now known which will kill morning glory, which will not also make the soil sterile to the growth of other plants. Morning glory still has to be reduced by continual cutting under the ground, never allowing it to reach the surface. This is done by special weed cutters which must be run at regular intervals, whether the plant appears or not, because the success of the methods consists in never allowing a shoot to reach the light.

It has been demonstrated by experiment that grape vines which are pruned very early are apt to start early in the spring, and the converse is probably true, also, that vines pruned late may delay their spring start until the danger of frost is over in some cases. It is the practice of some growers to prune vines half long—that is, leaving five or six buds, cleaning up the vineyard and then waiting. If the growth starts upon the upper buds and is cut by the frost, the vine is then cut back to two buds and the later growth comes from these. If, however, the season has gone so long without frost, so that it is considered safe, a second pruning is done, cutting back all the half-long canes to two buds. This seems to be a rational practice where frosts are to be expected, though, of course, it makes the handling of the vineyard more expensive by doubling the cost of pruning.

Pecans in the South.

To the Editor:—I have some property in San Bernardino county, California, near the foothills of the San Bernardino mountains, at an elevation of 2600 feet. I have been thinking about setting out some pecan groves, but as I do not know anyone in the immediate vicinity who has had any experience in this line, I thought you might be able to give me some advice as to the variety you would recommend, and also what the prospects would be.—Subscriber, Chicago.

If you have soil of good depth and considerable moisture available, the pecan might succeed and be worth trying, but the tree does not take kindly to long dry heat, either in air or soil. At present it is doing best on deep valley land away from the immediate coast, where the equable temperature of the autumn seems to interfere with the proper maturing of the nuts. Enough has not yet been done with the pecan to take it out of the experimental list. Many disappointments have been encountered in pecan projects.

Surprise Valley Seedling Apple.

To the Editor:—I send an apple brought to me from 20 miles over the mountains. A rancher in Surprise valley, near Cedarville, Modoc county, has several times tried to raise an orchard, but the young trees have always died. Four or five, possibly six, years ago they had been paring a lot of apples and threw the cores and skins to the pigs. In the following spring it was found that a seed had sprouted in that place and the seedling grew so well that it was transplanted to the land where the young trees had previously died. I believe the intention was to graft the seedling, but it was never done. This year the tree bore quite a crop of apples, the fruit being different from any variety known to people here, and they cannot tell what apple it is. Many of the apples have few seeds, and it is very pleasant flavored. Can any one tell from the fruit what variety the seed came from? Is it like any named variety? It is, of course, a seedling.—M. H. M., Alturas.

There are some apples which reproduce themselves quite closely from seed and one of them is the Ben Davis, the result being that there is now quite lively controversy as to the identity of varieties named by propagators which have close resemblance to each other and to their reputed parent. It is clear, however, from a pomological point of view, that a variety demonstrated to be a seedling has a right to a distinct name because owing to the tendency to variation in seedlings it may have distinct powers, adaptations and values from those of its parent, no matter how close the resemblance of the fruit may be.

Now in the case of this apple from Modoc county it has some points of resemblance to the King of Tompkins County, which is largely grown in that part of the State—more closely resembles that variety than any other which we now think of, but that does not interfere at all with its standing as a new variety. It should be given a name. The name "Surprise" comes first to mind naturally because of the locality and the facts of its origin and quality, but that name will not do because it is already given to an apple, and although the existing Surprise apple is poor and of little moment it can hold its name against all other claimants. The person on whose place the seedling appeared has a right to suggest the name. Next season, before the fruit gets too ripe to travel, several specimens should be sent to the Pomologist of the United States Department of Agriculture, Washington, D. C., with a full account of the origin of the variety, the name suggested and a request that it be named and described by the Department. If local experience seems to justify the effort the tree should be taken good care of and such scions as can be spared should be root-grafted this winter so that the variety may be multiplied and also secured against the chance of injury to the original tree.

Walnut Growing.

To the Editor:—I am a newcomer here, and having about six acres to spare I thought I would try walnuts. There is an abundance of water, the soil is sandy, with no hardpan nearer than 12 feet of the surface. I have nuts from a tree that has nice soft shell, the meat is excellent, and the tree has borne since it was seven years of age abundantly; it is a seedling. Would it be better to plant these nuts depending on their coming true from the seed? or plant the nuts and then graft them from the original tree? Or would it be more desirable to plant the native black walnut and then bud or graft (which is better) from the original tree? Does your book, "California Fruits," give full directions for budding or grafting?—Newcomer, Modesto.

The soil and moisture conditions which you describe are suitable to the walnut and the record of the seedling which you describe is worthy of attention, but you ought to have the nuts passed upon by an expert to see if the type will suit the trade. An amateur's idea of a nut with a sweet kernel, etc., is not enough to proceed upon in determining whether it is a good nut to grow largely. Walnuts come quite true from seed, and most of the commercial crop is grown upon seeds grown from seed, although now the disposition toward grafting to get greater uniformity is increasing. In the soil you describe an English walnut seedling root ought to be satisfactory; on more trying conditions, heavier soil and more danger of extremes of moisture and drouth, the California black walnut root is a more hardy root. "California Fruits" has a full account of walnut budding and grafting; the latter operation is more widely used than the former.

Legumes for Green Manuring.

To the Editor:—I am thinking of planting some variety of the legumes for green manuring. Before doing so I desire to get information from you, if possible, as to what variety would succeed in our locality. In the winter the thermometer gets as low as 29° F., while during the summer the air is mostly hot and dry, although at times it is quite humid. Our soil is a sandy loam. One (native) variety of the Leguminosæ family, namely, the Lupinus (L. Chamissonis, Esch.) succeeds well here, but it is too late and small to be of much account. I notice in your last issue a description of the Ochrus and Tangier Pea. I would like to plant the Ochrus pea if it would endure our conditions, and, if not, I would like to know what other variety, if any, would do best under our conditions.—C. E. D., Kingsburg.

As stated elsewhere, the Ochrus pea is still under experiment, and how it will finally stand as a winter growing green manure plant cannot be yet told. The Tangier pea has not made much of a hit so far. On the whole, the best winter growing legume we know of now is the common burr clover, and it promises well also because of its disposition toward self-sowing, because it proceeds at once to make seed, and at the same time extends its stem growth, so that it is apt to have already seeded the ground before the time comes for plowing in. At present the common broad bean or horse bean is very promising. It will stand some frost and is hardy for a bean. It is worth trying and the seedsmen have the seed. As for summer legumes, if you have a moist bottom, you can grow cowpeas in the dry season. Soy beans are also available for summer growth where soil and air carry moisture enough to suit them.

The Ochrus Pea.

To the Editor:—In the Pacific Rural Press, under the heading of "Forage Plants in California," by J. S. Jones, I read of the Ochrus pea; I should like very much to try about half an acre for an experiment on sandy loam for green manure. Is it too late to sow them now, and, if not, where can I secure seed for trial?—Farmer, Turlock.

The University has no Ochrus peas to spare this year. An accident befell the planting on which they were depending and they are obliged to use all their own seed, expecting to get a quantity sufficient for distribution next year. Cows broke in and ate up the seed plants which showed forage value if it did destroy the seed crop. We doubt whether you can get a supply in the market. Possibly application to the Division of Seed & Plant Introduction, United States Department of Agriculture, Washington, D.C., might indicate to you where the seed can be obtained at once. It is probably not too late to plant in your district, although earlier planting so as to get the full benefit of the autumn heat is usually desirable.

Winter Growth of Legumes.

To the Editor:—My orchard is covered with a fine growth of mallows and alfilerilla; almost no clover or the other legumes sown last year. Would you advise plowing as soon as rain makes it practicable, then sowing burr clover and leaving the ground untouched as long as possible? If not, what?—Orchardist, San Jose.

The method you describe is the best that could be chosen. This ought to get you a fine cover of burr clover, if growing conditions are favorable and result in a satisfactory contribution of humus to the soil.

Walnut Growing.

To the Editor:—Please inform me whether an English walnut seedling grown from the nut from a grafted nut tree will produce the same quality of nut, and how long does it take a grafted tree to bear? Can I buy grafted nut trees direct from the nursery?—Orchardist, Vacaville.

The English walnut often comes true from the seed and probably by planting the nuts of which you speak you would get a tree which would bear nuts of the same type, although there is variation in the seedlings from the same tree, and for that reason the use of grafted trees is becoming more popular. It is also a fact that the grafted tree comes into bearing much sooner, sometimes bearing quite a crop in the third or fourth year, while the seedling may not produce for nearly twice that length of time. You can buy grafted trees from all our leading nurseries, and it would be well to get in your order early this year, because there is quite a disposition to plant walnuts and the stock of trees may not be large enough to meet the demand.

Fertilizers for Grain.

To the Editor:—I have eighty acres of grain land which has been cropped for twenty years without fertilizing. What fertilizer can I use and how much to the acre, and when should it be applied to get the best results for present crop, as I expect to sell next year?—Farmer, San Jose.

You will get good and immediate results from the use of 200 pounds of nitrate of soda, 400 pounds superphosphate and 100 pounds muriate or sulphate of potash per acre. Have the materials thoroughly mixed and apply evenly as a top dressing on the growing grain in February, as in your region you are likely to have enough rain to distribute these soluble manures, and not enough to lose any of them by leaching out.

WEATHER AND CROPS.

Report of the U. S. Weather Service for Week Ending November 14, 1904.

Alexander McAdie, Forecast Official and Section Director.

Sacramento Valley.

The temperature was slightly above normal and the weather generally clear during the week, with light fogs in the mornings. The soil in some sections is becoming somewhat dry for seeding, but in most places plowing and seeding are progressing rapidly. A large acreage of grain will be planted if conditions continue favorable. Early sown grain looks well and is making rapid growth; present prospects are good for a large crop of wheat, oats and barley. Oranges are coloring rapidly and give indications of a large crop; picking and shipping are in progress in some places. Olives and walnuts are being gathered and the yields are generally good.

Coast and Bay Sections.

Partly cloudy and foggy weather prevailed during the week and the temperature was nearly normal. Grain and grass made good growth and were never in better condition at this season. Rain is needed soon in the southern districts, but the soil is still in excellent condition in the central and northern sections. Plowing and seeding are progressing rapidly and in some places the grain acreage is being largely increased. Green feed is plentiful and stock are in good condition. The premature budding of fruit trees is causing orchardists some uneasiness. Apples are nearly all gathered and the olive crop is being harvested. Oranges at Cloverdale are developing satisfactorily.

San Joaquin Valley.

The weather during the past week has been clear and seasonable. Very little plowing and seeding is being done, owing to the dryness of the ground. Raisin curing is about finished and the present season's crop is being shipped rapidly to market. Olive picking continues. Orange picking is progressing rapidly and large shipments are being made; the fruit is of fine color and good size. Green feed is plentiful and stock of all kinds are in good condition and healthy. There is plenty of water in the irrigation ditches. Rain is needed in all sections.

Southern California.

Warm, clear and exceedingly dry weather continued during the week, with drying winds, which rapidly absorbed the moisture in the soil and necessitated a most liberal use of irrigating water. The highest temperature ever recorded at San Diego in November, 93.1°, occurred on the 8th. The drought is seriously affecting potatoes and all vegetation, and green feed is rapidly failing. Very little farm work is being done and the outlook for grain is poor. Oranges are coloring rapidly and picking is in progress in some orchards. Walnut harvest continues and is nearly completed at Anaheim.

Eureka Summary.—Considerable plowing and seeding is being done. Grain has a thrifty appearance; in some places oats are 6 inches high. Cattle are in fine condition. Rain assures plenty of feed for winter use.

Los Angeles Summary.—Hot, drying winds most of the week seriously affected the growth of vegetation. Grass is still green in some northern sections, but needs rain; pasturage is dried up elsewhere. A large acreage of garden truck is being planted. Some peas and beans are already marketed.

Rainfall and Temperature.

The following data for the week ending 5 A. M. Wednesday, November 16, 1904, are from official sources and are furnished by the United States Weather Bureau for the Pacific Rural Press:

California Stations.	Total Rainfall for the Week	Total Seasonal Rainfall to Date	Total Seasonal Rainfall Last Year to Same Date	Average Seasonal Rainfall to Date	Maximum Temperature for the week	Minimum Temperature for the week
Eureka	.83	6.54	10 04	8 43	82	46
Red Bluff	.36	9.49	2.67	3 86	72	46
Sacramento	.74	6.24	1.69	2 75	78	44
San Francisco	.32	7.85	1.57	3.19	72	52
Fresno	.01	5.05	.19	1.41	74	40
Independence	.00	.47	.42	.88	74	34
San Luis Obispo	.10	4.69	.14	3.34	90	44
Los Angeles	.00	1.13	.43	1.64	88	48
San Diego	.00	.16	.07	1.24	88	48
Yuma	.00	.81	.66	1.10	82	40

AGRICULTURAL SCIENCE.

Education and Agricultural Advancement.

PART II.

By Hon. P. J. Shields, Superior Judge, Sacramento, at the State Farmers' Institute at Berkeley.

A Social Aspect.—But there is another and more serious penalty which we must pay as a result of our neglect of the education of our agricultural population. While society is largely concerned about the production of wealth, its chiefest concern at all times must be that its social structure is safely grounded and not out of proportion, that its progress be normal, that its growth be so elastic as to permit of natural adjustment, that its structure may remain at all times symmetrical and well balanced. Education has at all times exercised a controlling influence upon the growth of a people, and we should therefore ask ourselves if our system of training is so adjusted as to produce a wholesome society, properly adjusted for wise and permanent progress. Many considerations influence me to the opinion that it is not. We are neglecting the necessary training and education of our agricultural population, with the result that it fails of its highest aggregate efficiency and of realizing its highest individual happiness. We must make the occupation of farming more attractive, that the farm youth will remain upon the farm and that the city youth will be attracted there. For it is very largely upon this class that we must depend for the strength and stability of our society and for the production and development of our wealth; from this virile source our cities must be recruited, by this people the difficult problems of the future must be solved. We must so form our educational policies as to foster the growth of this most necessary class—we certainly must in no wise lend ourselves to policies which diminish its numbers or sap its strength. A recent scientific commission in England reported that no cases can be found of individuals representing three successive generations of London birth without the exhibition of evidences of degeneration. A recent able California writer, in commenting on conditions in New York City, makes the broad statement that more than three-fourths of all the strong and active men making successes of life in that maelstrom of competition are Western born and farm raised, and that it was from such sources that it had been forced to recruit for generations. It is to develop and maintain this necessary source of supply that the best thought of this nation should be directed. The tide at present is all towards the cities, and it has been running like a rapid. In 1800 one-twenty-fifth of the population was in the cities of over 8000 inhabitants; in 1870 there was one-fifth; in 1890 there were three eighths, and in 1900 there was one-third. In California more than one-half of our population resides in cities of 4000 inhabitants and upwards. This drift of population to the cities is accompanied by another alarming social consequence. Men who a few years ago were independent rulers of great industries, now find themselves the hired managers of great trusts and corporations. The Government itself is largely influenced, if not controlled, by a few men who through their financial power and the consolidation of interests in their hands, are becoming the rulers of our rulers. Whatever economic benefits may be derived from such consolidations, most of us believe that manliness suffers; and where are we to look, unless it is to the farmer and men of similar affairs in industrial life, for the pristine glory of American independence and manhood?

Agriculture as an Advanced Art.—There was a time when farming was a rude and simple occupation, but it is now vastly different. Two generations ago it took twenty-three days in which to reap and thresh an acre of wheat. It can be done now in nine minutes by seven men. There was a time when the making of butter was a question of "luck," and when the farmer sowed the seed which came to his hand. Now good butter is made with the certainty of a physician's prescription, and the qualified farmer breeds his seed. This means that the farmer must now be educated and a specialist. A school that will teach the young farmer to think and to be a specialist, to make two blades of grass grow where but one grew before, will do much for the building up of the Nation. Nor will the education of the leaders of thought alone be sufficient. If some are to do the scientific thinking and others are to do the unscientific farming, I do not see how the blades of grass are to be multiplied. While the necessity of the education of our agricultural population is thus becoming daily more apparent and pressing, what are we doing in that direction? Are we providing such instruction in agriculture as the importance of that industry demands, are we affording to that class advantages equal to that provided for other classes and professions? The extent to which we are not is shocking. From the report of the president of the University of California it appears that while about 40% of the population of the State is agricultural, but 20% of the population of the University is representative of that interest. On the other hand, less than 10% of our population represent merchants and their families, yet this class is represented by 21% of the population of the University. But this disproportion is greatly exceeded by that of the lawyers, who represent about three-tenths of one per cent of the people of the State, yet are represented in the University by nearly 6% of its population. This same disproportionate representation is true of physicians, clergymen, engineers and similar professions and occupations, and establishes that the influences are not at work for attracting to our higher institution of learning a normal or a safe proportion of our agricultural youth. These figures show, too, that the population of our University is not well balanced and that the strictly professional classes are enjoying an undue share of its advantage. Farmers undoubtedly should have the same educational advantages as other professions, but how different is the fact. This State has but 4278 lawyers and they have separate institutions for their instruction. From these institutions and as the result of professional training, there was graduated, in 1903, 225 attorneys to recruit the necessarily small ranks of California lawyers. We have 1672 dentists, and for the purpose of keeping up this supply we graduated 115 in 1903. We have 4403 physicians in the State, with many separate institutions maintained for their education and training. From these institutions there will be graduated, in 1904, 140 young men and women. How different it is with agriculture. About 40% of our people (about 600,000) are engaged in the productive industries and we have no distinct institutions for their special training save the College of Agriculture at Berkeley, which we have starved and neglected. We have no influences leading to enthusiasm for it, no tendencies inclining our people to its pursuit. Our college produced in 1903 eight graduates.

Recruiting the Professions.—Taking twenty-five years as the working life of an individual in any of the above occupations or professions, to maintain our supply of lawyers we need annually 171 new men to enter the profession. To supply this number we graduated and admitted to practice, in 1903, 225. In other words, we graduated 53 more than are needed. In the profession of dentistry, according to the same theory, we need annually 67 new recruits, while we graduated and licensed 115, an oversupply of 48. Of physicians we require to preserve our requisite numbers 176 annual additions. To supply this number we will graduate from institutions devoted exclusively to their preparation about 140 graduates in 1904, while from other sources such additional number will be licensed to practice as will suffice to exceed the number required.

In these and many other instances we palpably produce an oversupply; we engender an unhealthy and wasteful competition; we invite social disturbance and economic loss. Compare the above top-heaviness with the conditions which exist in agriculture. Of our 600,000 agricultural population, admittedly insufficient, 120,000 should represent the men actively engaged in that industry. To recruit this army we require an annual supply of 8000 young men fully equipped by education and training to do for agriculture what the young lawyers and young physicians are doing for jurisprudence and for medicine, to work the wonders in production of which this Western wonderland is capable. Do we educate 8000 young farmers each year? Have we the influences at work in California which will result in raising this army of yearly volunteers? No! We graduated from our agricultural college in 1903 but eight young men—one for ever thousand required. Can I make it stronger? We want 8000 and we prepare eight. I will not attempt to condemn this condition. Again we must not spare ourselves. The conditions are worse than this; they are not working towards improvement. The tendencies of our educational system is away from agriculture. We subordinate it; we discourage it by neglect and inattention.

We give undue and unhealthy prominence to other callings and professions; we sacrifice our surplus youth in artificial and wasteful competition and leave the class upon which we must depend for our wealth and growth and social health, to be made up haphazard without plan or system or preparation.

A Cultural Aspect.—To all this it is answered that instruction in agriculture is not education; that it does not make for culture, and that its general adoption as an institutional policy will tend to impair our educational system and degrade our educational ideals. Many satisfactory answers to this contention lie upon the surface. In the first place a vigorous agricultural school and college will draw from a population not now touched by higher educational effort, and what it will do for them in the way of culture will be a distinct gain to education. In the next place the organization and existence of such institutions would create such an atmosphere, would constitute such a stimulus that the whole cause of education would be prospered by it. Thirteen years ago when Stanford University opened its doors there were less than 1500 students at Berkeley, and the prediction was freely made that this new rival would greatly weaken the older institution. But events have shown that Stanford served to stimulate the cause of education in California, and while during these years that institution has attracted a splendid attendance, numbering in 1904 about 1700, Berkeley has more than doubled her attendance, anticipating an enrollment for 1904 of nearly 3000.

In the course of time a flourishing agricultural college would do more for the general cause of education than Stanford has done, for in addition to supplying the same stimulus for educational effort, it would so augment wealth and improve the standard of living as to largely supply the means and create the desire for general mental culture.

But the better answer to the contention to which I have referred is the fundamental one, that training in the science and practice of agriculture is distinctly educational in itself and produces as one of its best results true mental culture.

Education in agriculture will enable men to be useful; to earn their livings by the exercise of trained powers; to support the institutions of society; to determine their true relation to the world into which they have been born, and to live according to its laws. It will make them earners in the broadest sense rather than parasites. In the minds of men thus trained the old idea of "education for education's sake" will be discarded for the saner principle of "education for the use which can be made of it." In their cases mediæval classism will be substituted by modern effectiveness and true culture will suffer none in the process. The new education recognizes that practical training is cultural, and that cultural subjects may be so selected that they may not be wanting in practical tendencies.

Instruction along the many lines which converge to form the science of agriculture cannot fail to broaden and humanize the mind and to produce scientific spirit, that judicial temper, that appreciation and breadth of view which are among the essentials of education. That this is true has come to be acknowledged by modern educators, and in the future we may look to see educational progress keeping close to experience, but without becoming utilitarian. It will teach men to know and live practically in this world rather than to dream of and float in a world of the imagination.

Recent Results of Education.—But the wisdom of modern educational methods has been put to the test and proven. The last seventy-five years have been characterized by industrial training by schools of technology and scientific investigation. These years have given more to civilization than all that have gone before. They have given to the race more of the comforts of life and a broader and saner view of its purpose. Through medicine it has given health; through law, better government; through commerce and agriculture, greater wealth. Through the rapid communication which it has given the world, it has broken down race prejudice, softened and broadened religious conception, and is about to confer upon the world the blessing of universal peace. If by any process the bulk of these accomplishments may be classed as material, they have clearly had a strong humanizing reaction. Nor has culture and appreciation suffered in this progress We have as much idealism now as in the romantic ages, and while it is not fanciful and picturesque, it is real and practical and relates to the perfection of actual existing conditions. The old idealism created a race of dreamers; the new has produced one of workers who have builded not only a material world, but a moral and æsthetic civilization.

So let us have a new college of agriculture, broader in its purposes and better supported. And let us have it now lest our delay engender permanent disadvantage. Let us have it for the wealth it will produce; for the social strength it will engender; for the culture it will promote. Let us proceed immediately to establish our industrial life upon a basis of everlasting agriculture; to establish our social structure upon the enduring foundation of a wholesome rural life; to found our educational system upon the theory that "the times are waiting for men who shall serve and not merely inquire, strive and not merely investigate, give to their age and their kind not so much learning in bulk as wisdom in action; great doing as the only true fruitage of great thinking; the consecration to the uplifting of one's fellowmen of one's best rather than the conserving by mere culture of one's self."

FRUIT MARKETING.

Fruit Supply and Prices in England.

From U. S. Consul Joseph G. Stephens, Plymouth, England.

The probable export of grapes from Spain for the new season will be 1,500,000 barrels (72,000,000 pounds), against 1,400,000 barrels in 1903. The quality is far above the average. The exports to England are so heavy that in no other country except Spain are Almeria grapes so cheap. Shippers will handle larger quantities than ever before. For the next ten months, it is stated, they will be most abundant and obtainable at very cheap prices.

Thus far England has imported more oranges than any other fruit. The amount for the first seven months of the year was 475,974,688 pounds. Though

the banana receipts were heavy, they were less by over 1,000,000 hundredweight (112,000,000 pounds) than those of oranges. Large shipments are expected from Spain, Palestine and Italy. Up to July 20,000,000 bunches of bananas had been imported. The demand for this fruit in England is greatly on the increase, so much so as to affect the confectionery and candy trade.

So far 4,191,584 bushels of apples have been imported from the United States and Canada. The English stock is exceptionally heavy, and English fruit will be plentiful until after Christmas. The French, Belgian, German and Dutch crops are also reported as heavy. During the first seven months of this year the imports of apples from all sources were valued at $5,454,373, or double the amount for the same period of last year.

Pears are very plentiful and of first-class quality. Large shipments are arriving from the United States and the Continent. Common pears are as cheap as apples. In the first seven months of the year the imports of pears totaled 5,289,200 pounds, or five times as much as for the same period of last year.

Plums are abundant. On the Continent the crop is plentiful. Thus far 14,083,888 pounds have been imported. From California come the Japanese Kelsey plums, which have acquired such a great reputation in recent years; they come in larger quantities than ever before. California plums in fancy boxes have been ordered in large quantities for the Christmas trade. When these are over, fresh plums from Argentina will follow.

Fresh lemons and the peel of citrus fruits will be plentiful and cheap. The imports of lemons so far this year have been slightly less than usual, but the fruit has been larger and finer. Italy has greatly increased her exports of this fruit to England. The citrus fruit trees of Italy number 30,000,000. Owing to the phenomenal lemon crop in California, which is probably capable for the first time of satisfying the American demand without the importation of a single case from Italy, England will profit by a large supply at small prices. Italy depends to a very great extent upon the American lemon buyers, and the abundant California crop will turn the Italian exports to the British market.

The Placer County Association.

After declaring themselves in favor of development work as mentioned in last week's Pacific Rural Press, the fruit growers who assembled at Loomis on Novemher 5th proceeded with formal organization.

Mr. Thompson placed in nomination for president Mr. Andrew Ryder of Loomis, and he was elected unanimously. Egbert J. Martin of Lincoln was elected vice-president and J. M. Madden of Newcastle was elected secretary, with James T. Law of Loomis assistant secretary.

Mr. Ira Avery moved to take up the question of rebates and refrigeration by the selection of a committee of three to formulate a plan to work upon. Carried.

The president appointed the committee as follows: J. N. Barton, Ira Avery and P. H. Stuede.

The following names were added to the roll of membership: C. A. Sandahl, J. N. Lindroth and George E. Smithem of Penryn, C. V. Reed of Newcastle, W. A. Martin of Roseville, John Livingston of Lincoln.

"The Placer County Fruit Growers' Association" was adopted as the name of the organization.

On motion of S. C. Laird a committee of three on constitution and by-laws, consisting of J. F. Madden, Ira Avery and R. M. Nixon, was appointed.

The meeting then adjourned to assemble again at the call of the president.

THE GARDEN.

Denizens of the Desert.

By Mr Ernest Braunton, Instructor in Horticulture at the Preston School, Waterman, Cal.

In the large and varied family of cacti, there is much to interest the most casual observer, while to the enthusiast or "cactus crank," the desire to increase his collection becomes almost a mania and every few years the horticultural journals hail the return of the "cactus craze." This so-called craze appears not only rational but highly commendable to one who has given the subject much study or has seen many of our species in their native haunts.

This great family, known to the botanist as the natural order Cactaceæ, contains about 1000 species, confined to the Americas with the exception of a few species of Mistletoe cactus found in South Africa. They range from the northern boundary of the United States nearly to the southernmost part of South America, as well as the West Indies. Natives as they are to the new world only, the American mind, nevertheless, usually pictures them in every desert scene of the old world. I once heard a prominent Los Angeles preacher (now in San Francisco) describing the trials of the Children of Israel, and in speaking of the Desert of Sinai, said: "Imagine a dreary waste, torn by storms of many years, with no vegetation save here and there a lonely plant of the forbidding cactus." 'Tis said that a noted artist was at work on a large painting of the city of Jerusalem, as it appeared at the time of Christ, and had just placed a cactus plant snugly under the shadow of the outer wall, when a botanist friend happened in and exclaimed, "You must not do that! no cactus was introduced to the Holy Land until years after the Spanish discovered South America." Thus was a great painting saved to the world.

While Mexico contains by far the greater number of species, it is probable that the United States has the largest in the giant cereus of Arizona; a plant that reaches into Mexico, yet finds its greatest development on our soil. In California we have many kinds both interesting and handsome, though all are in the southern part of the State, their most northerly range being in the neighborhood of Bakersfield. It must not be taken for granted that these plants are confined to the warmer climates alone, for some prove perfectly hardy midst the blizzards of the Dakotas. Many interesting kinds, not found elsewhere,



Echinocactus Cylindraceus.



Grizzly Bear—Opuntia Ursina.

are native to Colorado and Nevada, while Arizona, New Mexico and Texas are well supplied. No other family of plants can rival the cacti in variety of form and size.

The giant cereus of Arizona and northern Mexico is the largest growing member of the cactus family, attaining a height of 60 feet and a diameter of 2 feet or more. In the United States it is usually known simply as the "giant cactus." In Mexico they call it the "Saguarro" (the g has the sound of w). In proportion to their size the giant cacti are among the heaviest plants known, the body being composed largely of water. So full are they that travelers nearly perishing of thirst have saved themselves by cutting out a large piece and shaping the bottom of the wound to catch the water or sap, which collects in a considerable quantity in an incredibly short time. One would scarcely seek to quench his thirst in this manner except in case of dire necessity, for the sap is not of a pleasant taste.

The flowers, usually white, though sometimes tinged with smoky blue, are borne in a circle of clusters near the top of the plant, giving the effect of its being crowned with a wreath of white blossoms. The blossoms are followed by dull red, edible fruit, quite like a fig or pear in shape. The native Indians make it a point to gather all these fruits for food and in addition manufacture from them an intoxicating beverage. To obtain these fruits the Indians push them off one at a time, using a long pole, which is sometimes obtained from a dead trunk of one of these giants, for when dry the body splits up into thin strips the extreme length of the plant. The flower of the giant cactus has been adopted by Arizona as the Territorial flower.

The smallest cactus is doubtless from central Mexico, though quite common in California collections. It is globular in shape, thickly covered with soft spines, and is only ½ inch or less in diameter. It is known to the trade as Mammillaria minima. Between these two extremes range plants of every size and of almost every form. The Mistletoe cactus is a bushy little plant a few inches tall, with stems smaller than straws. Some of the so-called "barrel cactus" have stems 3½ feet in diameter; the night-blooming cereus is a slender climber; others are known by such names as "case-knife cactus," because the stems and branches resemble a common table knife. Some of those, bearing well-known common names because of their resemblance to certain objects, are as follows, and the names are sufficiently descriptive of their shapes: Bishop's cap, devil's pincushion, dumpling cactus, elkhorn cactus, grizzly bear, hatchet cactus, Indian fig, living rock, lizard cactus, lobster claw, old man cactus, prickly pear, rat tail cactus, seven sisters, thorns and ribs, Turk's head, etc., and such names could be listed by scores. The flowers, too, are of every hue, while some are more than a foot across when in full bloom.

Aside from their beauty and interest these plants are useful in many ways. Many kinds are used for hedges and fences. When the island of St. Christopher, in the West Indies, was divided between the English and French, three rows of the common tuna were planted to mark the boundary—nothing would better keep the two people separate. Some of the trunks are used for firewood in desert regions where scarcely any other material is available. Canes and ornamental bric-a-brac are made from many kinds, while the fibrous trunks of others are woven into baskets or ground up for paper making. In Sicily cactus is planted on the porous lava beds, where no other vegetation grows, and not only does it make the landscape green, but aids to lower the temperature during the periods of greatest heat. The insect which furnishes the coloring known as cochineal thrives only on cactus plants, and hundreds of acres have been planted for this purpose alone. The night-blooming cereus furnishes a drug greatly used in heart troubles, and a Mexican species yields a deadly alkaloid poison known as anhalonine. In times of drought cattle relish these plants after the spines have been burned off, and horses and mules have been known to kick the larger kinds to pieces in order to get the juicy flesh to eat. Even two-legged mules relish the taste, for the Pimos Indians of Mexico make from the juice an intoxicating beverage which the Mexicans call tiswine. They also grind the seeds in mortars and make bread from the flour thus obtained. The fruits of some kinds are used for making jelly, and even in a raw state are in some demand, for the pulp has a sweet or sub-acid and agreeable flavor.

On our school grounds at present we have but three species of cacti—Echinopsis oxygona and E. Eyriesii, both from Brazil, and Opuntia microdasys, the "velvet cactus," from Texas and northern Mexico. It is expected, however, that the near future will find quite a variety with us, for some are now on the road from southern California.

CEREAL CROPS.

The Barley Product of the United States.

Now that the barley crop is coming into greater prominence in California, owing to improved prices and a sharp export demand, it is interesting to have a sketch of the barley product of the whole country. Orange Judd Farmer supplies this sketch, remarking that for many years it was one of the anomalies of American agriculture that while both soil constituency and climatic conditions were suitable for the production of barley, and that the crop brought almost always a relatively high price, yet the production of the country fell far short of meeting its requirements; further, that the import trade was considerable. During the last few years, however, there has been a very radical change in the situation, the area of the crop having been rapidly increased, especially in the Northwestern States. The position has changed from that of a heavy importing country to one of a comparatively heavy exporting country. In the earlier years referred to New York and California were regarded as the center of barley production, the crop result depending upon the conditions in the two States.

Increased Attention Given Barley.—At pres-

ent, while California stands first in the total area devoted to the crop, the Northwestern States of Wisconsin, Minnesota, Iowa and the Dakotas have come to the front with such rapidity that their crops now dominate the production of the country.

It has been found that barley makes an exceedingly good complementary crop for spring wheat in the Northwest, and the natural tendency to diversify production wherever it can be done has resulted in a tremendous increase in barley acreage in the territory which a few years ago was devoted exclusively to spring wheat. In the Red river valley, for example, where until five years ago there was almost nothing but wheat, there is now a large and constantly increasing percentage of the land devoted to the barley crop. The results both in yield and in financial return have proved so satisfactory that barley may now be regarded as a permanent secondary crop in this important section of the country.

Gaining on Old World Production.—In spite of the fact, however, that we have increased our production with marvelous rapidity, more than doubling it in five years, the United States still stands no better than fifth among the producing countries of the world. Russia is the leading country, with a product at least two and one-half times greater than ours, while Austria and Germany are still slightly in excess. Another year, however, is likely to place the United States second on the list of barley producing countries of the world.

The great demand for barley in this country is for brewing purposes, and this industry furnishes an outlet for a greater part of the high grade produced at relatively good figures. There is a growing use, however, of the crop for feeding purposes, and a considerable proportion, especially of the lower grades, is thus disposed of. On the Pacific coast, for instance, barley is largely used for the feeding of horses, and furnishes an excellent ration, as in composition the grain largely resembles oats or other staple cereal feeds.

The Present Product.—The barley crop of 1904 is one of rather more than an average in rate of yield, with a production which is fairly uniform in all States of importance. The season was remarkably favorable, barring, of course, the exceptional lateness, which threatened frost damage to a considerable portion of the crop in the extreme Northwest. Some damage of this character was experienced, but, broadly speaking, the season lasted long enough to enable the greater part of the crop to cure, in spite of its late planting and slow growth. The quality of the crop is reported by our correspondents as reasonably satisfactory. The weather conditions immediately preceding and at the time of harvest were such as to give a clean, bright grain, with only a comparatively small percentage stained.

The following statement presents the estimated acreage, yield and production of barley by States:

BARLEY CROP OF 1904 BY STATES.

	Acres.	Per Acre.	Bushels.
New York	110,000	27.0	2,970,000
Pennsylvania	9,000	23.0	207,000
Texas	5,000	30.0	150,000
Arkansas	1,000	21.0	21,000
Tennessee	2,000	22.5	45,000
West Virginia	1,000	25.0	25,000
Kentucky	1.000	21.1	21,000
Ohio	33,000	28.0	924,000
Michigan	45,000	24.6	1,107,000
Indiana	11,000	28.6	315,000
Illinois	23,000	27.5	633,000
Wisconsin	507,000	31.0	15,717,000
Minnesota	1,121,000	28.7	32,173,000
Iowa	595,000	28.0	16,660,000
Missouri	2,000	21.1	42,000
Kansas	145,000	20.5	2,973,000
Nebraska	104,000	28.0	2,912,000
North Dakota	606,006	27.9	16,907,000
South Dakota	357,000	27.0	9,639,000
California	1,365,000	21.8	29,757,000
Oregon	74,000	27.0	1,998,000
Washington	165,000	35.0	5,775,000
Oklahoma	17,000	30.0	510,000
Other	135,000	22.0	2,970,000
Totals	5,434,000	26.6	144,451,000
1903	4,942,000	28.3	139,145,000

HORTICULTURE.

Frosts and Citrus Fruits.

Mr. E. L. Koethen of Riverside has from the first given close study to the feasibility of resorting to frost prevention in citrus orchards. In a recent letter to the Fruit World he discusses the present situation in this way: The land in all southern California localities where citrus fruits are grown may be divided into two or three classes: The heretofore entirely frostless; the land that has been occasionally touched, and that which should be abandoned because it is too cold for citrus culture. It is out of the citrus zone. With this information the new comer could be on his guard and, with care and diligent investigation, avoid disappointment. Now we maintain that real estate values that are based on anything but reliable information as to the actual value of the property for the purpose for which it is intended are false and sure to lead to disappointment in the final end. The fact is that our values do not need deception to maintain them, and even in the case of citrus orchards that are occasionally touched by frosts, if the owner has used protective measures several seasons in succession, and by saving the crop has made the property a paying one, we would submit it as a fact that it has more value than the ranch where all efforts at frost protection have been omitted and the owner, in a frantic effort to sell out, has lost money from year to year. It is simply good business to establish value by being able to show profitable returns.

The Practicability of It.—But some will say: "Can this be done?" We say yes. It has been done and may be done again. On citrus lands the margin between danger and safety is so small that the difference may be overcome, and it is now thoroughly established that correct principles have been defined, which, if observed, will produce certain results. Briefly stated, they are to maintain a wet surface soil throughout the orchard, running water in furrows, if possible. But this alone is not safety enough—some method of applying direct heat to the lower stratum of air, by the means of small fires, well distributed so as not to produce great upward drafts. This is accomplished in various ways: Oil burners, oil pots, briquettes and coal baskets, any one of which will produce similar results if properly applied.

Work and Worry.—Hard work? Yes, of course, it is. We get nothing worth having without trouble, and we find that the regular ranch help is always willing to take a turn at frost protection if necessary, especially if they get double pay for the night work.

Too much worry? Well, no more worry than to feel helpless and to know that, no matter what you might wish to do, it is too late. The crisis is at hand and there is no time for preparation.

"It will help my neighbor more than myself. The heat drifts right down over him!" Well, suppose it does, though we doubt it. You get the first effects. If you get enough out of your apparatus to save your trees and crop, at reasonable cost, that is enough. Remember your neighbor is waiting for you to start, and the man above you may be induced by your example to act, and then you will have the benefit of help from him. The larger territory that is covered the more certain the results and the less will be needed for each place.

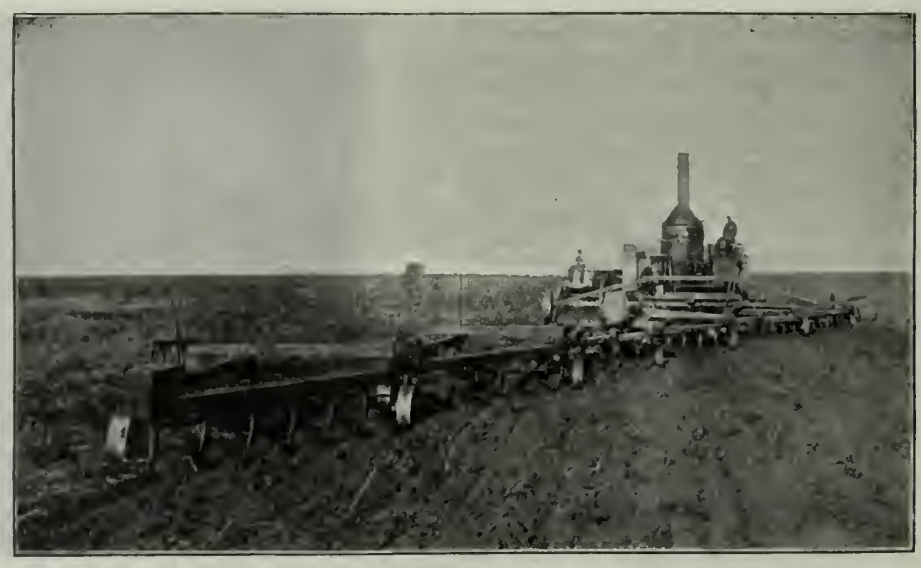
"I am not in the frost belt. My place is frostless!" Are you sure of that? Do you know that frost is liable to strike in very unexpected places? In the winter of 1892-93 there was one night when frost struck ranches on the high ground that were supposed to be absolutely frostless in more than one locality, while the low lands escaped injury. Would it not have been fortunate for the owners of those ranches if they had been prepared to protect them? We believe that none of us can feel real safe, and all should be prepared to act when the time comes. It may be your turn next.

In view of this, we wish we could see a general movement towards frost protection. But that will never come, we fear. You can do your part at least and save your own fruit. Get busy. Determine what method to use, and get all preparations finished before the last of November.

Handling Winter Apples.

Mr. H. G. Keesling of Edenvale, Santa Clara county, gives the Rural New Yorker a sketch of his way of handling apples on a small scale. On account of our mild climate, it has usually been considered all right to store apples in any old place not needed for something else, and really it is quite wonderful how long they keep with such neglect. However, for several years I have been taking better care of the winter apples than formerly, and find that while the keeping season has not been changed perceptibly, the quality of the apples has been greatly improved. In picking apples we insist on just as careful handling as in picking other fruits, and we find that the picking pail made of tin or light galvanized iron, holding about twelve quarts, or nearly twenty pounds of apples, is the best vessel to pick in, and we use them right through the season for cherries, apricots, peaches and even prunes. A pail of this size is not too heavy to handle even on high ladders, and it carries the fruit without bruising. Our plan for picking apples is to pick and sort into boxes in the orchard. If a number of pickers are at work, then one or more men will do the sorting. As each picker fills his pail, he carries it a short distance to the sorting station and sets it down, taking an empty one and returning to his work. If more than 100 feet away, then each picker carries two pails. The apples are sorted out of the pails and very carefully examined. The perfect apples go into one box, seconds into another and culls into another. They are then loaded onto a truck or wagon with springs and hauled to the house. A good sorter will keep pails empty for several pickers, all, of course, depending on the crop, size of apples, etc.

Of late years I have been putting my winter apples in redwood boxes, which, when piled one on top of another five or six high and close together, and then covered with canvas or muslin, are in a condition to keep their flavor and juiciness a long time. Storing apples in boxes saves a lot of work in handling if they are to be examined or sorted during the winter. The apple crop is short in California this year, and one result is that seconds, which usually go slow at 25 cents per box, now go quickly at 35 to 50 cents per box. A box of apples averages about forty pounds. We sometimes allow pickers to pour peaches or apricots from the pails into the boxes, but draw the line at apples.



The McLaughlin Tractor.

The McLaughlin Tractor.

The illustration herewith is a good example of the work performed by a McLaughlin traction engine, the latest addition to the ranks of powerful engines of this class for which California has become famous. Rigid simplicity, perfect proportions, with proper distribution of weight to obtain maximum efficiency at the drawbar, are claimed by the manufacturer. The engine, as illustrated, is pulling a gang of forty plows, cutting 33 feet wide at a speed of 3 miles per hour, at times on a 15% grade, and at a stated cost of 25 cents per acre. The boiler is of the well-known vertical submerged tube type, as specified by the United States Government for boilers of this class, and is tested at 220 pounds hydrostatic pressure, the submerging of the tubes being designed to obviate possibility of leaking from overheating. The engines are duplex; cylinders 8 inches diameter by 11 inches stroke, fitted with balanced piston valves and guides of the Corliss type. The reversing mechanism is designed to afford durability and positive action. The transmission gears are of cast steel throughout, few in number transmitting the power direct from the engine shaft to driving wheels through the medium of only one countershaft. The whole transmission contains only five journal boxes which are provided with self-oilers. Owing to the work to which such machines are subjected, it is necessary to devote similar special attention to the construction of the wheels. The tires consist of two or more rings of Channel steel with the flanges extending inwardly, the abutting flanges riveted together and integral with the rim, maintaining rigidity. The spokes consist of flat steel bars riveted in sockets in the hub, and meeting in trussed form between the hub and rim, bracing the wheel with minimum tensile strain on the spokes. Oil, wood or coal may be used as fuel, and the saving in cost for work performed by them as against animals is obvious.

The tractor engine illustrated is built and furnished by the McLaughlin Manufacturing Co., 24-26 First street, San Francisco, Cal.

Agricultural Review.

Colusa.

TURKEY WRECKS AUTO.—Colusa Special to Sacramento Bee: While W. B. De Jarnatt, Marshal Diggs and an Eastern capitalist were automobiling about 4 miles north of Colusa, they ran into a band of turkeys last Friday. One big gobbler got mixed up in the running gear of the machine which became unmanageable and began to climb an electric light pole. De Jarnatt was knocked senseless and had an arm badly sprained. The other two escaped with slight bruises.

SENATOR BOGGS' PLACE SOLD.—A Colusa dispatch says: W. A. Yerxa, a wholesale grocer of Minneapolis, Minn., has purchased from the Sacramento Valley Land Company the property known as the "Boggs Home Place," the residence of the late Senator John Boggs, about twelve miles above Colusa. It is Mr. Yerxa's intention to immediately establish a large creamery and sow all the land in alfalfa and deal in thoroughbred Holsteins. This tract consists of about 450 acres of the choicest land on the Sacramento river. It will produce six crops of alfalfa a year, as it is under the ditch of the Land Company, and can be irrigated any day in the year.

Fresno.

ORANGE SHIPMENTS.—Sanger Herald: The first carload of Fresno county oranges was shipped from this station Nov. 2d—just fifteen days earlier than the first carload went forward last season. So far this season seventeen carloads have been shipped by the Citrus Union. We understand that sales opened at $2.50 for fancy Washington Navels, but prices have since dropped to $1.50 f. o. b. At these figures the growers will realize a fair profit.

LARGE SWEET POTATOES.—Some of the largest sweet potatoes we have seen were brought in last week by John Walton, having been raised on his ranch near Sanger. One weighed nineteen pounds and another fifteen pounds.

WILL SOW LARGE ACREAGE.—John Wyruck was a passenger Thursday for Greenleaf, a small place above Fresno, near where he farmed for wheat last year. He says in all probability he will sow some 3500 acres to grain this season, and that the men are now at the work.

Kings.

BOTTSFORD RANCH.—Visalia Delta: The big ranch down near Tulare lake and south of Hanford, known as the Bottsford ranch, was sold Tuesday to a Los Angeles syndicate for the sum of $100,000. Mr. Bottsford has owned this ranch for the past twenty years, and has improved it a great deal. It is known as one of the most fertile pieces of land in Kings county.

CELEBRATED HORSE PURCHASED.—Hanford Journal: A company, consisting of ten horsemen of this city and vicinity, have purchased Hamiltonian Wilkes, a celebrated sire of trotting stock. The horse will be brought to Hanford for his home. J. Broilliar, the well-known breeder and trainer of Visalia, went to Santa Clara Saturday afternoon to bring the animal here. The new owners of Wilkes are: B. S. Gurnee, James Watson, Dr. R. E. Dixon, Jos. Corey, James Bullock, Alex. Anderson, Lee Dollenmeyer, Ed Earlanger, Mr. Morris of Tulare and J. Broilliar of Visalia. Hamiltonian Wilkes is the only son of the celebrated George Wilkes on the coast, and is a great producer.

CONTRACTING FOR PEACHES.—Hanford Journal: A number of prominent growers of fruit in this locality have entered into a ten-year contract for peaches with the California Fruit Canners' Association, said contract to be taken into consideration if at any time during its life the land is sold. The contracts are in brief as follows: S. E. Railsback signs for the total crop for ten years from 4 acres of Phillip cling peaches, estimated at 100 tons. J. C. Rice, 6 acres on which he agrees to plant this coming season, 225 Phillip's cling and 225 Tuscan cling peach trees; estimated entire crop, 300 tons. G. E. Rice, 2 acres, estimated crop, 100 tons. Mark Bassett, 42 acres, on which he agrees to plant, this coming season, 1500 Phillip's cling and 1500 Tuscan cling peach trees; estimated crop, 1450 tons. The price named in the contract for Phillips' clings is $25. Tuscan cling $22.50, and for Orange cling $20 per ton. The local nurserymen are generally shy on some of the most desirable cling peach tree stock, but it is hoped that the demand for them can be met elsewhere in the State.

Mendocino.

FAT SWINE.—Ukiah Republican-Press: C. P. Smith reports having purchased 200 fine hogs that averaged over 200 pounds each. They came from the ranches of Steve Busch, Charles Whittaker, K. C. Briggs of Potter and George Lane of this valley. Mr. Smith shipped a carload of them to San Francisco, and the remainder will be kept for local consumption.

Monterey.

PROFITS FROM WASTE LAND.—Salinas Index: Stansfield Sherwood has several acres of bottom land that was covered with a dense undergrowth of brush and willows. This he cleared off last year and planted to sugar beets in the spring. The experiment proved a profitable one, for the yield now averages twenty-five tons of beets to the acre at $4.50 per ton.

AT $100 AN ACRE.—Index: C. W. Peterson & Co. have taken an option on the J. W. Gragg ranch, consisting of 1000 acres in the Carmel valley, and expect to form a company in the near future and run a dairy and creamery. The option on the place is held at $100,000.

Napa.

TO THE EDITOR:—Vegetation of all kinds is simply wonderful for this season of the year—no frost yet. Will have cucumbers, tomatoes and lettuce to help out my Thanksgiving dinner.—IRA W. ADAMS, Calistoga.

Riverside.

ANNUAL ELECTION OF CANTALOUPE ASSOCIATION.—The annual meeting of the Indio Cantaloupe Association was held at Indio on November 11. The report of Secretary W. F. Everett showed a very successful season and a much larger acreage will be planted next year. In order to facilitate the refrigeration of the cantaloupes a large ice and cold storage plant will be erected at Indio and all cantaloupes will be cooled before being loaded into the cars.

Sacramento.

PARASITES FOR YELLOW SCALE.—Bee: John Isaac, secretary of the State Horticulture Commission, received a colony of parasites for the yellow scale and turned them loose in the lemon trees in the Capitol Park. The parasites were shipped by C. F. Carnes of the San Francisco office of the State Horticulture Commission. They are so small that they can hardly be seen with the naked eye. They are properly named Aspidiotophagus Citrinus. This insect has done great work in subduing the yellow scale in the citrus belt. Some of the citrus trees in the Capitol Park are covered with the yellow scale, and it is hoped these little insects will eradicate it.

San Bernardino.

FIRST ORANGE SHIPMENTS.—Times, Nov. 9: The first car of oranges to be shipped from the Highland district this season will be sent out Saturday by the Highland Orange Growers' Association and will be sent to Alaska going by boat most of the way. This is about three weeks earlier than the first car went out last year. Next week several cars will be shipped. The fruit is said to be very well matured for so early in the season.

FRUIT GROWERS PLEASED.—Redlands Facts: According to fruit growers in and around Redlands, the present season's crop of oranges is going to be one of the best in years, as far as quality of the yield is concerned. J. M. Messinger, who has just returned from a trip to his ranch north of Redlands, is one of the many who is particularly pleased over the prospects for an unusually fine crop this year. "The quality is the best ever," said he, when seen this morning. "It will be a little short in some localities, but what it lacks in quantity will be fully made up in quality. I know of no place in this locality where the crop shows any defects. As a consequence, ranch owners, as a rule, are very well pleased with the season's work." Mr. Messinger stated that, in his opinion, the shortage of the crop would not exceed one-fourth of the usual yield, and in most instances he thought the shortage would be nearer one-fifth than one-fourth.

San Joaquin

SOLD OLIVE CROP.—Lodi Sentinel: M. W. Shidy has sold his crop of olives to a San Diego firm for $80 per ton, delivered at Acampo. They will be shipped to San Diego by express and bottled for fancy trade.

THE WIRE WORM.—Sentinel: At the office of the Farmers' Union in Stockton there are samples of wheat which were attacked by a worm that has made its appearance near Grayson, and perhaps may be found in other localities. The samples were brought in by J. M. Hammond, who says he is of the opinion that 30% of his wheat, which was sown a couple of weeks ago, has been killed. The worm eats the germ out of the kernel, thus destroying the vitality of the wheat. It is white, about one-quarter inch long and of the thickness of a pin. Nobody at the Farmers' Union headquarters had ever heard of the worm before, but a farmer who was at the place Thursday said it did considerable damage here in 1870.

Solano.

FOOD THAT TEMPTS DUCKS.—Chronicle: Professor Willis L. Jepson, of the University of California Department of Botany, has just returned from an investigation of the feed conditions in the Suisun marshes, and reports that by chance he has discovered the nature of the supply of food in these regions that makes them so tempting for the thousands of wild geese and canvasback ducks that annually flock there. It has never been known just what lured the water fowl to these grounds. Under the belief that it was the visible feed, and fearing that this was gradually dying out, the sportsmen interested in the Suisun preserves invited Professor Jepson to study the conditions there. The Berkeley scientist found dry stalks of the fennel pond weed on the surface, but it was not until he pulled up these by their roots and investigated their submerged stems that he found small succulent tubers growing at their base. These secreted a rich oily substance, comparable to burr clover, and this he had no hesitancy in pronouncing to be the dainty food on which the water fowl have been fattening for so many years.

Sonoma.

BIG HOP CONTRACT.—Santa Rosa Press-Democrat: One of the largest hop contracts made in this State in years was that consummated in Santa Rosa Saturday morning between C. C. Donovan, the well-known hop buyer of this city, and Harry Fraser, one of the largest hop growers in Sacramento county. By the terms of the contract Mr. Donovan purchases from Mr. Fraser 1100 bales of next year's hop crop. The price at which the hops will be sold is 17c per pound. Mr. Fraser has been spending several days in Santa Rosa. He has 200 acres of hops and raises about 3000 bales thereon. The money involved in the contract between Mr. Fraser and Mr. Donovan is about $34,000.

MANY ACRES TO BE PLANTED TO HOPS.—Healdsburg Enterprise: It is estimated that in Sonoma county the new acreage to be planted to hops this coming spring will be close to 2000 acres. There are a number of persons who will plant from 20 to 100 acres if the conditions are favorable. With the prospective increase in this county and elsewhere, it is a question as to whether the price will remain stationary or go backwards.

TWELVE HORSES KILLED.—Enterprise: Dr. J. J. Summerfield makes the report that twelve horses have been killed in this county during the past two months on account of the glanders. He call attention to the need of precaution in order to prevent a spread of the dread disease among horses.

BIG SPUD.—Petaluma Courier: A large potato was brought in from the Joseph Perry place, near Kenilworth Park, to this office. It weighs five pounds, is about 40 inches in its largest circumference, and has twelve branches.

Stanislaus.

BIG PROFITS IN SWEET POTATOES.—Modesto Herald: The acreage in sweet potatoes in the Turlock quarter will be largely increased next season, not only through colonists, but through renters. F. W. H. Siem has rented 160 acres in seven different lots to Portuguese for a term of three years. He has provided dwellings and barns, teams and utensils, seed and feed, and the land is to be planted to sweet potatoes and beans, both of which yield excellently and produce fine profits. He is to receive one-half the crops the first year, and one-third the following years, in which the renters provide their own seed and feed. Land adjoining Siem's produced 225 sacks of sweet potatoes to the acre this year. With such a yield sweet potatoes are profitable at 50c a sack. They command from $1.75 down to 65c a sack, according to season.

Tulare.

FINE HORSE.—Visalia Delta: George H. White has received a fine Percheron horse from the Francis I. Hodgkins stock farm, near Stockton, of which he is the representative. The animal is as fine a specimen of horse flesh as ever seen in this city. He is from France and of the finest stock. He is jet black and without a blemish. The animal stands seventeen hands high and, though only four years old, weighs 1875 pounds.

Yolo.

MODEL BREEDING FARM.—Sacramento Union: John Mackey, superintendent of the Rancho del Paso, Marshall Diggs of Yolo county and Walter Jennings, the horseman, have purchased the Curtis ranch, near Woodland, Yolo county, and propose to convert it into a model breeding farm for thoroughbred horses. The ranch consists of 480 acres and the land is exceptionally rich.

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The Home Circle.

Sweet Thanksgivin' Music.

I've heard the chipper bluebirds sing
When April's sunlight gleamed;
I've tried rito hard t' be entranced
When paid sopraners screamed;
I've 'lowed my gals t' tote me off
T' church on Sunday morn
An heerd th' orgin toot it out
Ez loud ez Gabr'l's horn,
An' it was music, tew, I'll own,
But 's I told Mary Ann,
I'd ruther hear a turkey-hon
A-sizzlin' in tho pan.

Time wuz, wheno'er a fiddle squeaked
'S lively like and sweet,
'Twas hard t' keep from keepin' time
With my cow-hided feet.
It sounds good now, an' I kin rasp
A tune or two m'self;
But dancing is a thing long sence
Laid by upon th' shelf,
But I kin eat as well ez when
T' do it I began—
That's why th' turkey-hen sounds good
A-sizzlin' in the pan.

Thanksgivin', when I'm putterin' round
A-doing of odd jobs
Fer Mary Ann, an' stuffin' in
T' stove limb-wood an' cobs,
Don't tell me thon a man should try
His appetite t' gov'n
With that ar juicy fomale burd
A-cookin' in the oven;
Fer thero is things ez can't be did,
Ez well ez them ez can—
I feel that, when that turkey-hen
'S a-sizzlin' in the pan.

—B. T. Warner, in Up-to-Date.

Professor Caruthers' Thanksgiving Turkey.

It was 4 o'clock of an autumn afternoon. The last classes of the day were finished, and the big white boarding-school was disgorging its stream of students. Under a live oak tree on one edge of the campus a crowd of youths of ages ranging from fourteen to eighteen was assembled, discussing an interesting matter. The word had passed among them that something unusual was about to happen. What the nature of it was or who would be concerned in it they could not determine; but indications pointed to something important.

"Whenever you see Fred and Oran hangin' to each other like that you can be sure somp'n is up," exclaimed Jefferson Neeley, pointing to a tall boy and a short, fat one who sat apart from the others on top of the campus fence, apparently absorded in each other.

"I reckon you're right, and I wouldn't be surprised if 'twas some kind of Thanksgiving business," replied Hays, whose praenomen, Albert Edward, caused him to be styled Prince. "They have been just like that for two whole days—hardly speakin' to anybody else, an' you can be sure they're plannin' somp'n."

It was, in fact, no unusual thing to see the tall, lank Sallow and the short, fat Davis together. Their remarkable friendship was a standing joke of the school.

Jeff and the Prince, as the next of friends, waited with much impatience to be let into the secret. They were not disappointed. On Tuesday, after school, Oran gave them a sign, and they all sauntered toward the creek. Once there Sallow took the lead and conducted them rapidly up the stream. When they had made a half mile they came to where a spring bubbled up from the root of a giant cottonwood. They called it Sally's spring, because he had discovered it, and the spot was a sacred retreat, known only to the four. A fallen tree near by afforded a convenient seat.

"Well, Shorty, out with it. What's up this time?" asked Jeff. "Are we goin' to put Professor's calf in the chapel, or break into the kitchen?"

"Naw! It's noon of your little things like that," answered Davis. "I reckon you knew 'at day after to-morrow is Thanksgiving?"

"'Course; but what of it?"

"Well, what have we got to be thankful for?"

"Le's see," began Jeff, reflectively, staring up at the leaves while he counted on his fingers. "Accordin' to the old man we are thankful for manifold mercies and blessings; for being preserved through the trials and vicissitudes of another year; for health an' clothes an' food—he calls food—an'—"

"Oh, come on now," interrupted Oran. "This is no prayer-meetin'. Say, what have we got to be thankful for? Nothin'—not a doggone thing, you know we haven't. Just fat pork an' Yankee light bread an' last year's sorghum—a man can't feel much good over that. An' that's just what Sally an' me 've been workin' on. We believe 'at when Thanksgiving comes a man ought to be thankful, an' if he hasn't got anything to be thankful for, he ought to get out right quick and do somp'n to make him so. See here, then, here's the scheme."

Jeff arose from the ground and drew near to listen. Oran cast a glance around, then spoke in a whisper, while his companions leaned toward him with eyes and ears open.

"Bully! Nothin' like it has ever been done in the school," said Jeff, when he had heard the details of the plan.

"Yes, but don't you think he might catch us?" questioned Albert Edward, doubtfully.

"That's just like you, Prince," said Sallow from his place on the ground. "You're always afraid of somp'n. If you don't want to go into it, we'll get Baby Allen; he's not afraid."

"Oh, I'm not afraid either," Hays hastened to explain; only it would be hard on us if we got caught."

"Get caught nothin'! We won't go till after 12 o'clock, an' the old man'll be snorin' so you can hear him all over the hill by that time," said Oran. "You know where they roost, don't you? Right on the peak of the henhouse. It's purty high up, but I know where the ladder is, so we can get to him all right. You see, two of us will go up an' pull him off, an' the other two'll stay down an' keep guard."

"Whoopee! what a picnic!" cried Jeff, flinging his hat high up among the limbs of the trees. "Only four of us to eat him—Golly! I reckon we'll have all we want once."

"Sabe, then, everybody," asked Davis, as they all rose and made ready to return to the school. "Meet in the lane by the old man's side gate just at 12 o'clock. No talking. Sally leads, me next, Jeff next, an' Prince, you bring up the rear. Go through the lot into the back yard; put up the ladder and pull him off, put him in a sack and scoot out the back gate over the fence an' home. Easy enough."

"Just as easy as easy."

Near the hour of midnight four dark figures stood by President Caruthers' side gate. The four adventurers stood for a time motionless, half fearful of the weird noises that disturbed the wide night silence—the croaking of frogs in the marsh by the creek, the hoot of an owl, the midnight crowing of wakeful cocks.

At length the tall figure in advance took count of the others, and, motioning to them, lead the way stealthily along to the barnyard. He projected his lank frame through the interval of two planks and stood waiting for the others. His fat companion tried to go through the same hole, but found it too small, so with much ado he clambered over the top. The three attending figures watched him with silent convulsions of laughter. The cows and horses in the pen arose in alarm and moved away from the intruders.

They moved on to the back yard gate. The latch clicked noisily. They stopped, crouched down in the shadow of the fence and held their breath. After a time, as no one was aroused by the noise, they were reassured. They passed through the gate into the yard. The chicken house stood forty yards from the door of the Caruthers kitchen. They moved quickly toward it. It was a moonless night, but by the dim light of stars they could see the dark line of turkeys, perched high on the ridge of the roof.

"Where's the ladder, Shorty?" asked Sallow in a whisper.

"Round behind here; come an' help me bring it," answered Oran.

It was quite fifteen feet from the ground to the eaves of the house. They had to stand the ladder almost straight up to make it reach. Shorty and Jeff braced themselves to hold it in place, while the others ascended. Sallow went first. There was a disturbed, uneasy movement among the fowls inside, as if they felt the presence of enemies, but the dark line crowning the roof remained motionless.

When Sallow had disappeared on the roof above, the Prince began to ascend. He was awkward and the boys below had all they could do to keep the ladder from falling. At the top he paused to look before going farther. Sally was propelling his long body up the steep roof, approaching stealthily the sleeping turkeys. He was already within a few feet of the big gobbler, which was the game they sought.

As the Prince was about to pull himself off the ladder onto the roof, the pocket of his coat caught somehow on a protruding shingle and pulled it loose with a noise which, to the excited and fearful listeners, sounded like the boom of a gun. The chickens inside the house set up a terrible clatter, and the turkeys on the roof clucked in alarm, and the one nearest the crouching Sallow, discovering him, flew away into the darkness, with a great fluttering of wings.

The cackling of the fowls aroused the dog and he came dashing out from the kitchen, barking furiously. Shorty and Jeff, letting go the ladder, fled precipitately into the chicken house, where they crouched trembling in a corner. The ladder tumbled to the ground, adding to the fury of the dog. The boys on the roof were thus left with no way to descend. Sallow, unable to determine what terrible things were happening below, clambered over the ridge of the roof, scattering the turkeys noisily in every direction, and hung himself down from the other side, where he lay still and listened.

The unfortunate Prince was left in the worst predicament of all. He had climbed only a few feet from the edge of the roof, and now in his excitement he felt himself slipping slowly downward. The dog discovered him and began to bark with a definite purpose. Slowly but surely he felt himself falling toward what in the darkness seemed a terrible abyss. He grasped desperately at the shingles, trying to check himself, but there was not even the slightest projection to take hold of. His feet dangled over the eaves, he clutched wildly at the roof, checked himself a moment, then fell downward into the yawning jaws of the dog. Fortunately the ground was soft, so he was unhurt. The dog, almost as much frightened as the boy, retreated toward the house and the discomfited Prince, gathering himself up, fled for the gate, through it and over the fence, and scampered down the road, abandoning his comrades to their fate.

The dog, thinking that he had frightened off the marauders, returned growling to the house. But his barking had awakened a more formidable enemy. From his precarious position on the roof Sallow saw a tall figure, half dressed, come out of the back door of the house, bearing a lighted lantern. It was Professor Caruthers. He came toward the chicken house, peering through the darkness to see what the matter was, the dog following and whining an explanation.

"What is it, Colonel, old man?" asked Professor Caruthers of the dog. "Somebody after the chickens?"

He stopped and bent thoughtfully over the prostrate ladder, then looked up at the roof where the turkeys were accustomed to roost.

"Well, well! that's strange, very strange," he said. "I wonder how that ladder got there."

He passed several times around the house, then opened the door and looked inside. Shorty and Jeff, frightened almost out of their wits, drew themselves into as small a compass as possible behind a box in the corner. Seeming at length to be satisfied, Professor Caruthers closed the door and fastened it on the outside; then with a final look at the ladder and another up at the roof he returned slowly to the house.

Sallow lay stretched out on the roof, holding on with both hands, lest he slip off. With his ear pressed close against the roof he listened to the boys whispering inside. He felt round till he found a loose shingle, which he pulled away, making a small aperture through which he called down to the boys below:

"Shorty! Shorty! Can't you get out?"

"No, darn it all! He's fastened us in," answered Oran. "Can't you get down, Slim, and open the door?"

"No, I can't turn loose; I'll fall off if I do," came the answer from above. "Try to work the latch; maybe you can undo it."

For half an hour they applied themselves diligently to the door, trying in every way to open it, but it resisted all their efforts.

"Please, Slim, jump down an' let us out," pleaded Oran. "You don't want us to stay shut up here all night with a lot o' hens an' get caught sure soon as it comes day."

But no kind of agument or adjuration could induce Sallow to turn loose his hold. He lay stretched out on the slanting roof, holding now with one hand, now with the other, till both his arms ached.

After an interminable time, a thin, gray light appeared in the east. Just under the shivering Sallow a lusty cock, with a noisy flapping of wings, sent up a piercing crow that aroused the boys to a new sense of their danger.

"Slim! O Slim! Are you there yet?" called Shorty anxiously.

"Yes, of course, I'm here," came the answer thickly from the roof.

"Well, please do try to get down an' let us out. It'll be broad daylight in half an hour, an' we'll be caught like mice in a trap."

"Can't help it. I'm too near froze now to move."

His hands and arms were so stiff with the long strain that he could hardly hold on. Suddenly his numb fingers lost their grip, and, before he could recover himself, with a great clattering he sprawled downward across the shingles, dangled an instant in the air, then fell heavily to the earth.

"Slim! Oh, Slim! What you doin'? What's the matter?" cried the boys inside, but they had no answer.

For several minutes Sallow lay still on the ground where he had fallen; then, rising, he felt his bruised limbs to see if any of them were broken, after which he limped painfully around to the front and opened the door. Shorty and Jeff almost fell on his neck for joy.

"You come just in time, old man. I'm froze to death," said Shorty. "Did you fall?" he asked, looking at the rueful figure of Sallow.

"Fall!" cried that worthy, reproachfully. "Didn't you hear me? It's 20 feet, I know, an' I've got a bone broke in both legs. Don't believe I can ever walk home."

At that time there was a noise of some one moving in the Caruthers' kitchen. The three culprits looked at each other with renewed terror.

"Scoot!" cried Sallow, and, forgetting his lameness, he led the way.

They did not stop to shut the gate, but ran past the barn, startling the cattle again, clambered over the fence and fled at their best speed, Sallow first, Jeff next and Shorty waddling desperately in the rear. A tall man standing on the south veranda of the Caruthers house smiled knowingly as he saw the three animated figures disappearing down the road in the dim light.

The three discomfited night prowlers were much surprised the following day to receive notice to call at the principal's office after school With many misgivings they obeyed. Professor Caruthers began in his usual abrupt manner:

"Young men, you were out of your rooms last night."

"No, sir; no, we wasn't, professor," Oran began, but stopped at a nudge from his tall monitor.

"Yes, sir, we was out a little while," said Sallow.

"A little while? I thought so. Well, I take it you had a pleasant time."

To this the boys ventured no answer. Professor Caruthers looked at them a moment, as if he waited for them to say something, then arose and went to a corner of the room, where he selected

from a pile of keen sticks three that looked serviceable. The boys understood what was coming, and with faces quickly adjusting themselves to the occasion began to take off their coats. The ordeal was soon over and the victims stood in sullen awkwardness, awaiting the final admonition.

"By the way, young men," said Professor Caruthers, in a manner much less brusque, "to-morrow is Thanksgiving. Possibly you had thought of it. Mrs. Caruthers told me this morning that she is going to have a turkey for dinner, a fine gobbler—no doubt you've seen him around the yard—a monstrous fellow, and fat as a 'possum. She said she would like to have some of the boys eat with us. Sallow, Neeley, Davis, we will expect you. All right, is it? Very well—don't disappoint us. Ah, good bye," and with a wave of the hand he dismissed them.—Globe-Democrat.

At Three Score Years and Ten.

Written for the PACIFIC RURAL PRESS by IRA W. ADAMS, Calistoga.

Press on, my soul, with ardent zeal,
With fortitude press on;
For short indeed must be thy earthly stay.
Faint not, fear not, but trust in God
To lead thee safely on, while dwelling
Here within thy time-worn tenement,
Whose trembling walls remind thee oft
That soon they'll crumble, totter, fall,
And then return to dust from whence they came.

But soul-life never, never dies,
For when released from its frail dwelling place on earth,
Still lives, we humbly trust, in some bright heavenly sphere;
Progressing on and on, forever and for aye.

Turpentine a Moth Preventive.

It is foolish for people to pack clothing and furs away in cedar chests, in moth bags or encased with clusters of moth balls or camphor, for these things are poor expedients at the best. Moths will never settle where there are fresh air and plenty of light, so that clothing which is kept right in the closets and frequently exposed to the air and sunshine will be freer from the destroying moths than those garments which are kept packed carefully with a lot of compounds which will do little for the clothing save impart a disagreeable odor to it.

It is not always possible, however, to keep winter clothing, for example, around the house during the summer—closets are generally so small that it is apt to be very much in the way. It has to be packed, but for this purpose a trunk is better than anything else. Brush the garments carefully, even turning the pockets inside out and treating them to the brush, and then place the clothing in the trunk, putting sheets of newspapers between the garments. Moths do not like this paper, and it is sufficient to induce any moth fly that may have found lodgment on the cloth to turn up its wings and die; but if one wants to make assurance doubly sure a trifling quantity of turpentine sprinkled on the sides and bottom of the trunk will absolutely prevent any moths living on the garments that are packed there.

It may even be sprinkled on the clothing if one desires, for turpentine will not injure the most delicate fabrics or colors, and the odor vanishes almost as soon as they are exposed to the air. —St. Louis Globe-Democrat.

"Nerves" Cured by Half a Second Sleep at Noon.

A well-known man in England had among his ancestors a number of men and women who committed suicide. He himself became melancholy, and his children, who knew the hereditary taint, were much worried about him. A physician told him that mental fatigue was his trouble and persuaded him to try an experiment. The man was a very busy man and scoffed at the idea of taking a nap in the middle of the day. He finally agreed to the following: He would sit up in his easy chair every afternoon with his hands over his knees, holding a dinner bell in both his hands. If he lost consciousness and went to sleep he would be willing to sleep for so long a time as it would take for the dinner bell to fall to the floor and wake him up.

The doctor who suggested this arrangement declared that the mere mental relaxation of going to sleep, if only for a few seconds, would suffice to save him. He invited his patient to study activity of the brain by noticing how many things he would dream while the dinner bell was falling to the floor.

Every day for several months the man with the suicidal heredity sat down after luncheon with the dinner bell in his hands. Every day he went to sleep, slept for half a second while the bell fell to the floor, and his mental condition improved steadily, partly because of the rest which his mind got by losing consciousness for a second, and partly because of his interest in the extraordinary dreams which passed through his brain while the bell was falling. These dreams carried him all over the world, and seemed to last indefinitely. A dozen or more human beings were mixed up in them. A long succession of events, which were perfectly clear, passed before his eyes, gradually interrupted by a sound from a distance, which at first would mix in with the dream, and ultimately would prove to be the dinner bell striking the floor. The ordinary person who says he has been dreaming all night probably does not realize that he actually dreamed about a second and a half while he was waking up.—The World Magazine.

Domestic Hints.

SCOTCH SHORTCAKE.—An Americanized Scotch shortcake is made thus, when a simple dessert is wanted: Make an ordinary cookie dough, flavoring with either lemon or vanilla, and cut out into forms. Butter each lightly and sprinkle with the candied seeds of various colors obtainable at the confectioner's. Bake in cookie tins and serve hot or cold.

AN EASY PICKLE.—A very easy pickle to make is cucumber chop. Good Housekeeping furnishes this recipe: Chop three dozen cucumbers and eighteen white onions as for a piccalilli, add salt, and leave over night. Strain in the morning and add one small teacupful of white mustard seed, two heaping tablespoonfuls of black pepper and enough vinegar to cover.

GARLIC IN COOKING.—Americans will probably never learn to eat garlic stewed like onions, but it is a fact that they are using it in cooking to a greater extent than would have seemed possible a few years ago. Five or ten cents buys enough garlic to last even those who like it through a winter. Since it is so cheap it pays to always have it on hand, and to learn to use it wisely, which means not too well. Rub a scrap of dried bread or toast with a split clove of garlic and toss with the salad. The French call it a chapon, and it is extremely good. Rubbing a bit of garlic over a hot platter improves the taste of beefsteak.

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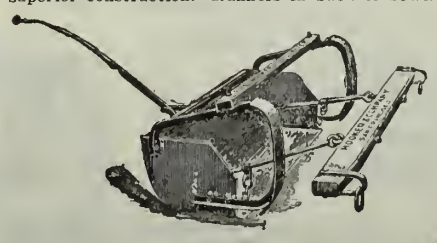
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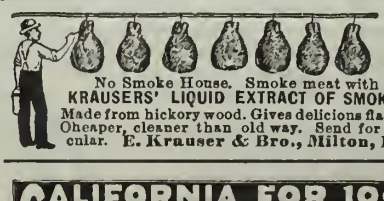
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The Markets.

San Francisco Produce Report.

SAN FRANCISCO, November 16, 1904.

CHICAGO WHEAT FUTURES.

Wheat futures in Chicago were as follows for the week named, price being for No. 2 Red per bushel:

	Dec.	May.
Wednesday	$1 12¼@1 13¼	$1 13¾@1 12⅞
Thursday	1 13¼@1 11½	1 12⅝@1 13¾
Friday	1 13⅜@1 15	1 13 @1 14½
Saturday	1 14 @1 14⅜	1 13⅝@1 14¼
Monday	1 14⅝@1 13⅜	1 14¼@1 13⅛
Tuesday	1 13⅜@1 11	1 13⅜@1 11⅝

CHICAGO CORN FUTURES.

Prices of futures on No. 2 corn per bushel in Chicago were as follows for the week:

	Dec.	May.
Wednesday	49 @51¾	46⅛@47
Thursday	52⅝@50⅝	47¼@46⅜
Friday	50⅝@51⅛	46⅛@47
Saturday	52¼@51⅛	47¼@46¾
Monday	51⅜@50¾	46¾@46⅜
Tuesday	50⅜@50	46½@46

SAN FRANCISCO WHEAT FUTURES.

The range of values in San Francisco for No. 1 White wheat per cental was as follows:

	Dec., 1904.	May, 1905.
Thursday	$1 47⅜@1 46¾	$1 48⅝@1 47½
Friday	——@——	1 47⅜@1 47½
Saturday	1 45½@1 45¾	1 47¼@1 46⅞
Monday	1 44⅜@1 44½	1 46¼@1 45⅝
Tuesday	1 44 @1 43⅝	1 45 @1 44⅛
Wednesday	1 43⅞@1 44	1 44⅞@1 45¼

Wheat.

There has been a generally steady tone to the spot wheat market most of the time since last review, and no pronounced fluctuations in speculative values. December and May options averaged a little higher here than previous week, but were somewhat lower East. While offerings in this center continue light, the export movement for November bids fair to be of tolerably liberal proportions, already aggregating over 11,500 tons, which is a greator quantity than shipped from San Francisco during the four months preceding, or for the current season up to the 1st instant. Shippers are doing scarcely any chartering at present, and it looks as though the loading fleet will soon be reduced to very small proportions. The freight market is docidedly weak and the Ship Owners' Combino is meeting with poor success. Several ships departed in ballast the past week and others are preparing to tako the same course. A ship was chartered for wheat from Portland to Europe at 20 shillings, which is equivalent to about 17s. 6d. from this port. The combination has been contending for 22s. 6d. from San Francisco, but to get business has been granting an unusual number of lay days, and then giving marked reductions for prompt loading.

California Milling	$1 50	@1 60
Cal. No. 1 shipping, alongside	1 42½	@1 45
No. 1 Oregon Club	1 42½	@1 45

PRICES OF FUTURES.

During past week the range on options was:
December, 1904, delivery. $1.47⅜@1.43⅝.
May, 1905, delivery. $1.48⅝@1.44½.

Wednesday, at the forenoon session of Exchange, December. 1904, wheat sold at $1.43⅞@1.44; May, 1905. $1.44⅞@1.45¼.

Ocean freights and prices for wheat, as compared with a year ago, are as follows:

	1903-04.	1904-05.
Liv. quotations	-s-d@-s-d	-s-d@-s-d
Freight rates	11¼@12½s	—@20s
Local market	$1 37½@1 40	$1 42½@1 45

Flour.

Spot stocks are not particularly heavy, especially of favorite marks and recent makes. Quotable values are without change, but for desirable qualities the market is firm at prevailing rates. There is a good export demand and business on local account is fully up to the average.

Superfine, lower grades	$3 25	@3 50
Superfine, good to choice	3 50	@3 75
Country grades, extras	4 25	@4 50
Choice and extra choice	4 50	@5 00
Fancy brands, jobbing	5 00	@5 25
Oregon, Bakers' extra	3 75	@4 25
Washington, Bakers' extra	3 75	@4 40

Barley.

The same firm tone previously noted is boing experienced in the barley market, with offerings of good to choice by no means heavy, and inquiry fairly active, both for shipment and on local account. That the last crop in this State was comparatively small is evidenced by the receipts and shipments. Rocoipts for season to date aggregato less than 100,000 tons, as against 176,000 tons for corresponding time last year. Shipments since July 1st do not aggregate 50,000 tons, as against 142,000 tons for corresponding period in 1903. Another shipment of Chevalier was made the past week, 13,440 centals, valued at $17,472, going to Fremantle, Australia. A shipment of 20,411 centals brewing barley, valued at $24,000, was cleared for London, and a part cargo of 58,646 centals, valued at $70,000, went afloat for Hull, England.

Feed, No. 1 to choice	$1 11¼	@1 12½
Feed, fair to good	1 07½	@1 10
Brewing, No. 1 to choice	1 12½	@1 17½
Chevalier, No. 1 to choice	1 20	@1 25
Chevalier, common to fair	1 00	@1 10

Oats.

Stocks are of fair proportions, but are considerably lighter than a yoar ago, and are of decidedly lower average as to quality. Values for ordinary grades are ruling steady. Choice to select seed oats are in quite limited supply and are readily salable at comparatively stiff prices.

White oats, fancy feed	$1 50	@1 55
White, good to choice	1 37½	@1 45
White, poor to fair	1 27½	@1 35
Milling	1 45	@1 50
Black oats	1 30	@1 65
Red, fair to choice	1 25	@1 50

Corn.

Market is moderately firm at the quotations, which remain about the same as last noted. Thero is not much corn of any sort in store here, and nothing to warrant anticipating excessive supplies this season. Nearly 600 tons have been shipped to Central America within the past fortnight.

Large White, good to choice	$1 45	@1 50
Large Yellow	1 45	@1 50
Small Yellow	1 60	@1 05
Egyptian White	——	@——
Egyptian Brown	——	@——
Eastern, in hulk	1 35	@1 45

Rye.

There is some demand for seed. Stocks are light and in few hands.

Good to choice	$1 42½	@1 47½

Buckwheat.

Market is practically bare of supplies. Quotable nominally at $2.00@2.25 for good to choico.

Beans.

Rain-damaged beans are offering quite freely and for this stock the market cannot be termed firm, sales ranging mainly from $1 to $2 por cental, as to variety and condition of the beans. For good to choice beans, sound and dry, the market is unfavorable to buyers, some very choice lots being held abovo quotations.

Pea, fair to good, 100 lbs	$2 90	@3 10
Small White, good to choice	3 15	@3 30
Large White	2 40	@2 65
Pinks	2 25	@3 25
Bayos, good to choice	2 25	@3 10
Red Kidneys	4 50	@5 00
Reds	4 00	@4 50
Limas, good to choice	4 15	@4 25
Black-eye Beans	2 50	@2 65

Dried Peas.

Offerings of domestic are light and are mostly damp. Choice would bring highor figures than are warranted as quotations for the average run of stock now on market. Several carloads of Eastorn Green arrived and were promptly placed.

Green Peas, California	2 25	@2 50
Garbanzos, Large	3 25	@3 50
Garbanzos, Small	3 00	@3 25
Niles	2 25	@——

Hops.

Market in this center showod the same firm tone previously noted, with offerings rather light from either first or second hands. The steamer Sierra, sailing the past week for Australia, carried 49,000 pounds, boing about 250 bales. Advices from Tacoma state that the largest sale of hops made in this country this season was consummated Friday, when the crop of the Muxee ranch, in tho Yakima valley, embracing 11,000 bales, was bought by Tacoma dealers at a price said to be not less than 30c., although the stock was not of the highest grade. Reports from Oregon indicate an active market, with prices very firm. Harry Frazer, a prominent grower of Sacramento, is reported selling by contract 1100 bales of noxt season's crop at 17c., C. C. Donovan of Santa Rosa being tho purchaser. The New York Producers' Price Current says: "In New York Stato this week the situation has been quiet. Growers who are still holding are very firm in their views and refuse to accept going prices. However, some smaller lets are constantly dropping off at 35@36c. On this market there have been sales of Pacifics for export of about 500 bales at 34c. States have also been handled in considerable quantity, but only choice export quality. Prices have ranged from 36@37½c. The market in Germany is very strong, with an upward tendency. The London market is quiet, but prices remain unchanged."

California, good to choice, 1904 crop	29	@32

Wool.

In the absence of noteworthy offerings, there is littlo opportunity for business in this center. Market has a strong tone, with prospects of materially higher prices ruling for 1905 clip than have been current this year. In Montana choice wools are being held at 25c. Advices from Argentina report prices 7@7½c. per lb. higher than last year. In Buenos Ayres choice wools are selling at 23c., equivalent to 34c. and freight, laid down in this country, the duty being 11c.

SPRING.

Northern, free	22	@—
Northern, defective	17	@21
Oregon, good to choice	20	@22
Nevada	15	@20

FALL.

Northern	14	@19
San Joaquin and Southern, free	12	@15
San Joaquin and Southern, defective	8	@10
Southern lambs, as to quality	8	@14

Hay and Straw.

Arrivals of hay aggregated lighter than previous week, shippers having difficulty in securing cars. Prices showed no quotable improvement, however, the demand being rather slow. Most of the hay now coming forward is in fairly good to choice condition. Receipts of straw are light, but are proving enough for immediate demand.

Wheat, good to choice	$12 50	@ 15 00
Wheat and Oat	12 00	@ 13 50
Tame Oat, fair to choice	8 00	@ 12 50
Wild Oat	8 00	@ 10 00
Barley	9 00	@ 12 00
Alfalfa	9 00	@ 11 50
Stock hay	5 00	@ 7 00
Compressed	12 00	@ 15 00
Straw, ℔ bale	45	@ 65

Millstuffs.

Demand for Bran and Middlings showed somo improvement and market was slightly firmer, but there was no material advance in quotable values. Market for Rolled Barley is moderately firm. Milled Corn is being steadily held.

Bran, ℔ ton	$18 00	@ 19 00
Middlings	24 00	@ 27 00
Shorts, Oregon	20 00	@ 22 00
Barley, Rolled	23 00	@ 24 00
Cornmeal	31 50	@ 32 00
Cracked Corn	31 50	@ 32 50
Oilcake Meal	31 50	@ 33 00

Seeds.

Alfalfa seed is not offering in great quantity, and that the market will be heavily stocked any time this season with either domestic or imported is not likely. There is considerable inquiry for Mustard Seed, with spot stocks light and market tolerably firm at the quotations.

Flax	$1 75	@ 2 25
Mustard, Yellow	3 50	@ 4 00
Mustard, Trieste	4 50	@ 5 00
		Per lb.
Alfalfa		13 @13½
Canary		6½@ 6¾
Rape		1¾@ 2¼
Hemp		3½@—
Timothy		5 @ 5½

Honey.

For choice to select water-white the market is rather firm, there being only moderato quantities of this description now in stock. Amber grades are in fair supply and are meeting with little inquiry at a rather low range of values.

Extracted, White Liquid	6	@ 6½
Extracted, Light Amber	4½	@ 5½
Extracted, Amber	3¾	@ 4¼
Extracted, Dark Amber	3	@ 3½
White Comb, 1-frames	12	@13
Amber Comb	9	@11

Beeswax.

Not much coming forward. Desirable qualities are readily placed, values ruling steady.

Good to choice, light ℔ lb	29	@30
Dark	27	@28

Live Stock and Meats.

Prime to choice Beef is in fair demand and current values for same are being well maintained. Market for Veal is without quotablo change, although receipts are showing some decrease. Mutton is selling at generally unchanged prices, and no special changes anticipated in the near future. Choice Lamb is meeting with good custom at steady values. Hogs are in light receipt and are meeting as a rulo with ready sale at full current figures.

Allowing for the shrinkage of about 50%, which is exacted in buying cattle on the hoof, live cattle command as much or more per pound than dressed beef, the shrinkage exacted being the slaughterers' profit.

The following quotations for beef and mutton are based on prices realized by slaughterers from wholesale dealers:

Beef, 1st quality, dressed, net ℔ lb	6½@	6¾
Beef, 2nd quality	5 @	5½
Beef, 3rd quality	3 @	5
Mutton—ewes, 6½@7c; wethers	7 @	7½
Hogs, hard grain, 140 to 250 lbs	4¾@	5
Hogs, large, hard, over 250 pounds	4½@	—
Hogs, small, fat	4½@	4¾
Veal, large, ℔ lb	6 @	7
Veal, small, ℔ lb	7 @	9
Lamb, spring, ℔ lb	8 @	9

Hides, Skins and Tallow.

Hide market is firm at last quoted advance, with demand good. There is a fair amount of business doing in Pelts and Tallow at quotably unchanged values.

Nothing but select hides, clean and trimmed will bring full figures. Culls of all kinds, either from grubs, cuts, hair slips, side brands or murrain, are not always readily placed at the lower figures.

	Sound.	Culls.
Heavy Steers, over 56 lbs	—@11	—@10
Medium Steers, 48 to 56 lbs	—@10	—@ 9
Light Steers, under 48 lbs	—@ 9½	—@ 8½
Heavy Cow Hides, over 50 lbs	—@ 9½	—@ 8½
Light Cow Hides, under 50 lbs	—@ 9½	—@ 8½
Stags	—@ 7	—@ 6
Wet Salted Kip	—@10½	—@ 9½
Wet Salted Veal	—@11	—@10
Wet Salted Calf	—@11½	—@10½
Dry Hides	—@17	—@16
Dry Kip and Veal, 11 to 16 lbs	—@15	—@13
Dry Calf, under 4 lbs	—@20	—@18
Pelts, long wool, ℔ skin	1 00@1	50
Pelts, medium, ℔ skin	70@	90
Pelts, short wool, ℔ skin	40@	60
Pelts, shearling, ℔ skin	15@	30
Horse Hides, salted, large prime, each	3 00@—	
Horse Hides, salted, medium	2 50@—	
Horse Hides, salted, small	2 00@—	
Horse Hides, dry, large	1 75@—	
Horse Hides, dry, medium	1 50@—	
Horse Hides, dry, small	1 00@—	
Tallow, good quality	4 @4½	
Tallow, poorer grades	2½@3½	

Bags and Bagging.

Business in this department continues of exceedingly light volume. In quotations there are no changes to note.

Bean Bags	$	4¼@5
Fruit Sacks, cotton		6½@7½
Fruit Sacks, jute, as to quality		5¾@7
Grain Bags, Calcutta, 22x36, spot		5 @5¼
Grain Bags, San Quentin, ℔ 100	4 50	@—
Wool Sacks, 4-lb	32	@—
Wool Sacks, 3¼ lb	30	@—

Poultry.

There was a generally better tone to the poultry market. Chickens in prime to choice condition were in good request and brought better averago figures than previous week. Turkeys continued in light receipt and were favored with a firm market. The prospects are that some people will find it necessary to go without Turkey this Thanksgiving. Ducks and Geese in fine condition sold readily. Pigeon market was quiet for Old; Young were in good demand.

Turkeys, Dressed, choice, ℔ lb	$ 24	@ 27
Turkeys, Young, ℔ lb	20	@ 22
Turkeys, live gobblers, ℔ lb	17	@ 18
Turkeys, live hens ℔ lb	18	@ 20
Hens, California, ℔ dozen	4 50	@ 5 00
Hens, large	5 00	@ 6 00
Roosters, old	4 00	@ 4 50
Roosters, young (full-grown)	5 50	@ 6 00
Fryers	4 50	@ 5 00
Broilers, large	3 50	@ 4 00
Broilers, small to medium	2 50	@ 3 00
Ducks, old, ℔ dozen	5 00	@ 5 50
Ducks, large young, ℔ dozen	5 00	@ 7 00
Geese, ℔ pair	1 75	@ 2 00
Goslings, ℔ pair	2 00	@ 2 25
Pigeons, old, ℔ dozen	1 00	@ 1 25
Pigeons, young	2 00	@ 2 25

Butter.

There is no improvement to note in the general condition of the butter market, and poor prospect for any speedy rocovery in prices. Stocks are heavy of both fresh and cold storage butter. To relieve tho situation, some shipments of fresh and held stock may be mado East, but this can be done only at low figures. Our choice creamery would net about 18c. on the present Eastern market. The mistako of the past has been in putting local prices so high as to permit of the profitable importation of Eastern butter.

Creamery, extras, ℔ lb	20	@21
Creamery, firsts	19	@20
Creamery, seconds	16	@17
Dairy, select	18	@—
Dairy, firsts	17	@—
Dairy, seconds	13	@14
Mixed Store	10	@12

Cheese.

No particular change to note in quotable values, but market is slightly easier in tono. Receivers are endeavoring to avoid accumulations, believing that prices have toucned zenith for the current season.

California, fancy flat, new	11½	@12½
California, good to choice	10	@11
California, fair to good	9½	@10
California, "Young Americas"	10	@12½
Eastern	11	@13

Eggs.

While not many choice to select eggs are coming forward, the demand for them is slow at the stiff prices lately established. It is feared the market will break after the Thanksgiving trado has been supplied. Sales this week over 45c. were confined mainly to favorite brands. Cold storage eggs are being crowded to sale as rapidly as possible and at comparatively low prices.

California, select, large, white and fresh	45	@48
California, select, irregular color & size	37½	@42½
California, good to choice store	27½	@32½
Eastern firsts	23	@27
Eastern seconds	19	@21

Vegetables.

Onion market shows decided firmness for good to choice stock, offerings being light. Green Peas arrived from Los Angeles and sold to advantage. Tomatoes were in fair supply, but were mostly under choice. Rhubarb moved slowly and asking prices wore reduced.

Beans, Lima, ℔ lb	4	@ 5
Beans, String, ℔ lb	2½	@ 4
Beans, Wax, ℔ lb	3	@ 4
Cabbage, choice garden, ℔ 100 lbs	65	@ 75
Cucumbers, ℔ box	30	@ 60
Egg Plant, ℔ box	50	@ 75
Garlic, ℔ lb	4	@ 4½
Okra, Green, ℔ box	50	@ 75
Onions, Yellow Danver, ℔ ctl	1 75	@ 2 00
Peas, Green, Los Angeles, ℔ lb	3	@ 6
Peppers, Green, ℔ box	25	@ 50
Rhubarb, ℔ box	75	@ 1 00
Summer Squash, large box	1 00	@ 1 25
Summer Squash, Los Ang., small bx	65	@ 75
Tomatoes, box	40	@ 90

NOTE.—Large boxes are what are known to the trade as "pay boxes," which have to be returned or paid for. They are open top, with hand holes in the ends, and weigh when filled from 50@60 lbs gross. Small boxes are free boxes, about the same as the regular fruit box, weighing when full from 20 to 30 lbs. gross.

Potatoes.

Sacramento river potatoes continue in heavy stock, and for common qualities the market is slow and weak. Choice to fancy Burbanks sell in a limited way to comparatively fair advantage. Arrivals of Sweots were not so heavy as previous week, but there were enough for the demand and market was without special improvement.

Salinas Burbanks, ℔ cental	90	@ 1 30
River Burbanks, ℔ cental	40	@ 75
River Reds, ℔ cental	65	@ 75
Oregon Burbanks, ℔ cental	75	@ 1 00
Sweet Potatoes, ℔ cental	65	@ 90

Fresh Fruits.

Apples continue in heavy stock, with further free arrivals this week from Oregon and Colorado. While there wore no radical changes in quotable values, the market for the general run of offerings lacked firmness. Good to choice apples, other than Spitzenberg, were offered freely at $1@1.25 per box. Oregon Spitzenberg were quoted up to $1.50 per box,

and in a small way were held a little higher, but they had to be of exceptionally fine quality to command $1.50 from dealers. Lady Apples were on market in quotable quantity and were mainly held at $2@2.25 per box, but movement in them was rather light; they will be in better request a little later on. Winter Nelis Pears were in light supply, and for choice there was a fair demand at tolerably good prices. Persimmons were in increased receipt and lower. Grapes in prime to choice condition were not in heavy stock and were readily placed at full current figures, especially such as were suitable for shipment. Figs were in fair supply, mostly from Sonoma and Martinez. Berries arrived sparingly and were mainly under choice; for desirable qualities the market was quite firm.

Apples, fancy, ₱ 50-box	1 40	@	1 60
Apples, good to choice, 50-lb. bx	1 00	@	1 25
Apples, fair to good, ₱ box	60	@	1 00
Apples, Lady, ₱ box	1 50	@	2 25
Figs, Black, ₱ box	65	@	1 00
Grapes, ₱ box or crate	50	@	1 00
Grapes, large open boxes	1 25	@	1 75
Huckleberries, ₱ lb	5	@	7
Pears, Winter Nelis, ₱ box	1 25	@	1 75
Pears, Cooking, ₱ box	40	@	75
Persimmons, ₱ regular box	40	@	75
Pomegranates, ₱ small box	50	@	75
Pomegranates, ₱ large box	1 00	@	1 50
Quinces, ₱ box	35	@	60
Raspberries, ₱ chest	4 00	@	7 00
Strawberries, Longworth, ₱ chest	8 00	@	10 00
Strawberries, large, ₱ chest	2 50	@	5 00

Dried Fruits.

In the way of shipments outward by sea, there has been something doing in the dried fruit market the past week. Particularly has this been the care as regards Prunes, the German ship Ammon taking for Germany 1,913,260 lbs., one of the heaviest shipments ever made from this port. The steamer Sierra, sailing for Australia the past week, carried a large quantity of dried fruit, aggregating 94,000 lbs., exclusive of Raisins, and including 36,000 lbs. Prunes, 19,300 lbs. Apricots, 10,200 lbs. Apples, 6,200 lbs. Peaches, 1,500 lbs. Pears. For most varieties the market is ruling firm, Apples being about the only noteworthy exception, offerings of same being on the increase. Market for Apricots, Peaches and Pitted Plums is showing decided strength, with stocks light, and that these will all rule stiffer before the season closes is very probable. High-grade Peaches are in quite limited supply and are being firmly held. Current values for Prunes are being well maintained, and any changes in the near future are almost certain to be better figures; present offerings are mostly medium sizes.

EVAPORATED OR BLEACHED.

Apples, 50-lb boxes, rings, pressed, good to choice	4½@ 5
Apples, extra choice to fancy, 50-lb boxes	6 @ 6½
Apricots, Moorpark	9 @11½
Apricots, Royal, good to choice, ₱ lb	7½@ 8½
Apricots, Royal, fancy	9 @10
Figs, 10-lb box, 1-lb cartons	55 @60
Peaches, unpeeled, good to choice	7¼@ 7¾
Peaches, unpeeled, fancy to extra fancy	8 @ 9
Pears, standard, ₱ lb	6¾@ 7¼
Pears, choice to fancy	8 @10½
Plums, Black, pitted	5½@ 6½
Plums, Red, pitted	6½@ 8½
Plums, Yellow, pitted	6½@ 7½
Prunes, Silver, good to fancy	4 @ 7½

Prunes, in bags, 4 sizes, 1½@1¾c; 40-50s, 3¾@4c; 50-60s, 2¾@3c; 60-70s, 2¼@2½c; 70-80s, 1¾@2c; 80-90s, 1½@1¾c; 90-100s, 1@1¼c; small, ⅞@1c.

COMMON SUN-DRIED.

Apples, sliced	3½@ 4½
Apples, quartered	3½@ 4½
Figs, White, in bulk	2 @ 2½
Figs, Black	2½@ 4

Raisins.

Market is firm for good to choice. Offerings of high grade Raisins are light. Not only is this year's crop proving smaller than generally estimated, but the quality is not up to the average of former seasons. The outward movement, largely of last year's stock, is of liberal proportions. The steamer Sierra, sailing the past week, took 138,000 lbs. for Australia, and the steamer City of Puebla, departing on 11th inst., carried 52,000 lbs. for British Columbia.

CROP OF 1904.

(Fresno delivery exeept otherwise specified,)

London Layers, 2 crown, 20-lb box	90 @ 95
London Layers, 3-crown, 20-lb box	95 @1 00
Fancy Clusters, 4-crown, 20-lb box	1 35 @——
Dehesas, 20-lb box	1 85 @——
Imperials, 20-lb box	2 25 @2 35
2-Crown Standard loose Muscatel	3 @3½c
3-Crown Standard	3½@3¾c
4-Crown Standard	4¼@4½c
Seedless Thompsons	—@4 c
Seedless Sultanas	—@3 c
Fancy, 16-oz. Seeded	6½c
Choice, 16-oz. Seeded	5½c
Fancy, 12-oz. Seeded	5⅝c
Choice, 12-oz. Seeded	4⅞c
Bleached Sultanas, Woodland Dist., 50s	4¼@4¾c
Bleached Thompsons, Woodland Dist., 50s	4½@7½c

Citrus Fruits.

Oranges of new crop are in good supply for this early date, but it is the exception where they are sufficiently ripe to be sought after for immediate use. For choice well colored there is a very fair demand and a tolerably firm market. Not many Lemons offering and for desirable qualities the market inclines in favor of sellers. Limes are going at unchanged figures.

Oranges, New Navels, ₱ box	1 75	@3 00	
Oranges, Valencias, ₱ box	3 50	@4 00	
Oranges, Cal. Tangerines, half box	1 25	@1 75	
Lemons, California, select, ₱ box	3 00	@3 50	
Lemons, California, good to choice	2 50	@3 00	
Lemons, California, fair to good	1 50	@2 50	
Grape Fruit, ₱ box	2 00	@3 00	
Limes, Mexican, ₱ box	4 00	@4 50	

Nuts.

Stocks of Almonds are showing steady reduction, and current values for good to choice are being well maintained. No. 1 to choice Walnuts are in active request, with market strong for stock of this sort.

Chestnuts, Cal., ₱ lb	6 @ 9
Nonpareil Almonds	13 @16
I X L Almonds	12½@14
Ne Plus Ultra Almonds	12 @13
Languedoc Almonds	9½@10½
Shelled Almonds, ₱ lb	18 @22
Peanuts, fair to prime	5½@ 6½
Cal. Walnuts, No. 1 soft shell	12½@13
Cal. Walnuts, No. 2 soft shell	10½@11
Cal. Walnuts, No. 1 hard shell	11½@12
Cal. Walnuts, No. 2 hard shell	9½@10

Wine.

Not much has been yet done in this year's dry wines and values for the same are consequently not very clearly defined. For one large lot offered this week the grower has had reasonable assurance that he can realize 16c, San Francisco delivery. The quotable range may be said to be 14@16c, with a possibility of slightly higher figures from outside buyers for particularly desirable lots. Receipts of wine last week at San Francisco were 305,450 gallons, and for preceding week were 358,975 gallons. The steamer Acapulco, sailing Nov. 12th, carried 85,391 gallons and 20 cases, mainly for New York. The British ship Chelmsford, clearing for London, carried 8,875 gallons and 60 cases.

Produce Receipts.

Receipts and exports of leading cereals and other California products for the past week and for the season to date, as compared with the corresponding time the previous year, are as follows:

FOR THE WEEK.		Since July 1, 1904.	Same time last year.
Flour, ¼ sks	59,950	1,960,823	2,326,068
Wheat, ctls	170,341	1,288 415	861,687
Barley, ctls	99,011	1,604,272	3,446,827
Oats, ctls	10,454	507,929	555,261
Corn, ctls	14,300	70,837	57,408
Rye, ctls	3,815	25,988	26,698
Beans, sks	34,400	272,941	404,495
Potatoes, sks	33,221	480,079	492,121
Onions, sks	1,958	62,009	79,715
Hay, tons	2,422	85,604	90,067
Wool, bales	1,574	34,123	30,082
Hops, bales	873	25,075	20,075

EXPORTS BY SEA.

FOR THE WEEK.		Since July 1, 1904.	Same time last year.
Flour, ¼ sk	53,523	1,560,032	1,640,708
Wheat, ctls	211,372	420,642	387,066
Barley, ctls	112,333	890,141	2,812,320
Oats, ctls	11	10,251	10,652
Corn, ctls	4,736	31,042	7,108
Beans, sks	1,098	27,783	16,173
Hay, bales	3,850	62,672	68,598
Wool, lbs		809,532	1,562,594
Hops, lbs	850	133,513	296,845
Honey, cases	475	1,139	3,026
Potatoes, pkgs	2,038	40,110	37,565

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New Patents.

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FOR WEEK ENDING NOVEMBER 1, 1904.

773,701.—BANK CHECK—J. W. Amrath, S. F.
773,846.—LATHE CENTER GRINDER—H. C. Barnes, Oakland, Cal.
774,130. — CATTLE GUARD — F. Bartlett, Seattle, Wash.
773,625.—LOG RAFT—A. Becker, Seattle, Wash.
773,914.—STEAM BOILER—D. Best, San Leandro, Cal.
773,915.—STEAM BOILER—D. Best, San Leandro, Cal.
773,916.—WATER PURIFIER—D. Best, San Leandro, Cal.
774,132.—JOURNAL BEARING—W. N. Best, Los Angeles, Cal.
773,711.—SAFETY PIN—E. A. Campbell, Los Angeles, Cal.
773,921. — SUCKER ROD JOINT — E. B. Campbell, Bakersfield, Cal.
773,542.—FURNACE—B. H. Cass, Los Angeles, Cal.
773,712.—TRAP—T. E. Castleberry, Modesto, Cal
773,849.—WATER GATES—A. J. Collar, Yreka, Cal.
773,716.—COLLAR—G. P. Cragin, Spokane, Wash.
774,045.—TOOTH—C A. Davis, Pasadena, Cal.
774,136.—CHIFFONIER—J. M. Forbes, Los Angeles, Cal.
773,562. — EARTH AUGER — E. Gerry, Whatcom, Wash
774,067.—TRITMATOR—I. S. Goldman, Los Angeles, Cal.
773,637.—CHECKREIN—J. R. Griffith, Los Angeles, Cal.
773,735.—POWER HAMMER—T. H. Griffitts, S. F.
773,736.—ELEVATORS—C. I. Hall, S. F.
773,871.—BEDDING PLOW—A. Horner, Paauilo, H. I.
773,938.—SNATCH BLOCK—W. Houghton, Novelty, Wash
774,080.—WATER GAGE—E. C. Jordan, Los Angeles, Cal.
773,749.—ORDER BOARD—H. Kaplan, Los Angeles, Cal.
773,750.—EYEGLASSES—E. G. Kay, Everett, Wash.
773,655.—TOY GUN—Leopold & Henker, Los Angeles, Cal.
773,800.—CAN FUSING MACHINE—A. Lotz, S. F.
773,963.—BUGGY TOP—McCray & Wiser, Los Angeles, Cal.
773,885. — FRUIT PITTER — J. A. McCune, Santa Cruz, Cal.
773,964.—HOLDER—P. J. McGuire, San Jose, Cal.
773,960.—MILK RECEPTACLE—E. S. Moore, S. F.
773,665.—SAND BLAST APPARATUS—J. D. Murray, S. F.
773,765.—OIL BURNER—F. E. Nelson, Santa Barbara, Cal.
773,887.—TAKING SOUNDINGS—P. O'Neil, S. F.
773,669.—CALENDAR—T. O'Shaughnessy, San Jose, Cal.
773,890.—HARROW—N. Paulsen, San Lucas, Cal.
774,104.—SEPARATOR — F. B. Pettengill, Los Angeles, Cal.
773,588.—PNEUMATIC TIRE — C. H. Pierce, Alma, Cal.
774,105.—CART—W. C. Poole, Marysville, Cal.
774,100.—BOTTLE CLEANER — S. Quee, Pasadena, Cal.
774,107.—GAME—J. C. Reckweg, Los Angeles, Cal.
774,005.—SIDEWALKS—B. F. Thies, Portland, Or.
773,694. — TRACTION APPARATUS — C. L. Varner, Santa Paula, Cal.
774,010.—PERCOLATOR — W. B. Webber, Los Angeles, Cal.
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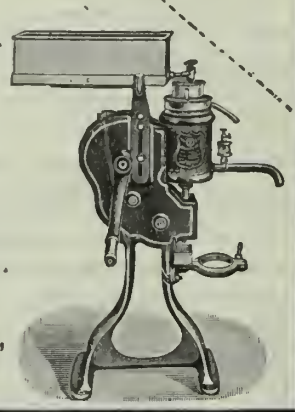
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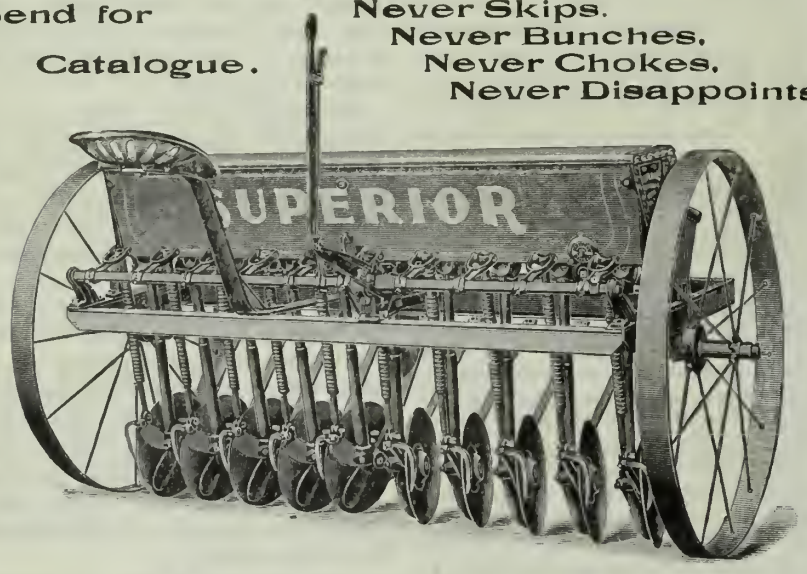
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THE APIARY.

Bee Keeping as a Side Issue.

By Frank Benton, M. S., Assistant Entomologist of Department of Agriculture.

It may be safely said that any place where farming, gardening or fruit raising can be successfully followed is adapted to the profitable keeping of bees—in a limited way, at least, if not extensively. Many of these localities will support extensive apiaries. In addition to this there are, within the borders of the United States, thousands of good locations for the apiarist—forest, prairie, swamp and mountain regions—where agriculture has as yet not gained a foothold, either because of remoteness from markets or the uninviting character of soil or climate. This pursuit may also be followed in or near towns and, to a limited extent, in large cities. It even happens in some instances that bees in cities and towns find more abundant pasturage than in country locations which are considered fair.

The Profit.—Although apiculture is extremely fascinating to most people who have a taste for the study of nature—requiring, as it does, out of door life, with enough exercise to be of benefit to one whose main occupation is sedentary—the income to be derived from it when rightly followed is a consideration which generally has some weight, and is often the chief factor in leading one to undertake the care of bees. Certainly, where large apiaries are planned, the prime object is the material profit, for they require much hard labor and great watchfulness, and the performance of work at stated times is imperative, so that in this case there is less opportunity than where but a few colonies are kept to make a leisurely study of the natural history and habits of these interesting insects, because—unless the keeper is willing to forego a considerable portion of his profits—his time must necessarily be almost wholly taken up in attending to the most apparent wants of his charges.

One very naturally supposes that the return from a single hive, or several of them, in a given locality may be taken as a fair index of what may be expected each season. Such return, if considered average, may serve as a basis on which to reckon, but as so conditions influence it that great differences in actual results will be found to occur in successive seasons. Apiculture, like all other branches of agriculture, depends largely upon the natural resources of the location, and the favorableness or unfavorableness of any particular season, no matter how skillful the management, may make great differences in the year's return. Furthermore, profits are, of course, largely affected by the nature and proximity of the markets.

A moderate estimate for a fairly good locality would be thirty to thirty-four pounds of extracted honey, or twenty pounds of comb honey, per colony. This presupposes good wintering and an average season. When two or more of the honey yielding plants are present in abundance and are fairly supplemented by minor miscellaneous honey plants the locality may be considered excellent, and an expectation of realizing more than the yield mentioned may be entertained. With extracted honey of good quality at its present wholesale price of 6 to 7 cents per pound, and comb honey at 12 to 13 cents, each hive should under favorable circumstances give a gross annual return of $2.50 to $3. From this about one third is to be deducted to cover expenses other than the item of labor. These will include the purchase of comb foundation and sections, repairs, eventual replacing of hives and implements, and the interest on the capital invested.

Bee Forage.—With a small apiary planting for honey alone can not be made profitable. Small plats of honey producing plants are valuable mainly because they afford an opportunity of observing when and under what circumstances the bees work on certain blossoms, and for the purpose of determining what might be depended upon to fill a gap in the honey resources of a given locality whenever the size of the apiary might make this a consideration of some importance. Even with a large apiary, probably no case exists in which, in the present condition of the subject, planting for honey alone would prove profitable. But when selecting crops for cultivation for other purposes, or shrubs and trees for planting, the bee keeper should, of course, choose such as will also furnish honey at a time when pasturage for bees would otherwise be wanting.

As complete a list as possible should be made of the plants and trees visited by honey bees, and notes should be added as to period of blossoming, importance of yield, whether honey or pollen or both of these are collected, quality of the product, etc. If gaps occur during which no natural forage abounds for the bees, some crop can usually be selected which will fill the interval, and, while supplying a continuous succession of honey yielding blossoms for the bees, will give in addition a yield of fruit, grain or forage from the same land. The novice is warned, however, not to expect too much from a small area. He must remember that as the bees commonly go 2½ to 3 miles in all directions from the apiary they thus range over an area of 12,000 to 18,000 acres, and if but 1 square foot in 100 produces a honey yielding plant they still have 120 to 180 acres of pasturage, and quite likely the equivalent of 30 to 40 acres may be in bloom at one time within range of the bees. A few acres, more or less, at such a time will therefore, not make a great deal of difference.

But if coming between the crops—especially if the bees, as is often the case, would otherwise have no pasturage at all—the area provided for them may be of greater relative importance than the larger area of natural pasturage; for it frequently occurs that the smaller part only of the honey produced by the field over which the bees of an apiary range can be collected by them before it is all washed out by rains or the liquid portion evaporated and the blossoms withered, while a small area may be more assiduously visited, and, the nectar, being gathered as fast as secreted, a greater yield per acre may result.

It is further of some importance to fill in such a gap with something to keep the bees busy, instead of letting them spend their time trying to rob each other; and, what is probably even more important, the pasturage thus furnished will keep up brood rearing and comb building and assist materially in preparing the colonies for the succeeding honey flow. There are many plants and trees of economic value, in addition to their production of honey, which may be utilized in most portions of the United States in the manner indicated. Adaptability to climate and soil, the periods of honey dearth to be filled in, markets for the crop produced, etc., must all come in to influence the choice. The following list includes the more important plants of economic value in this country which are good pollen yielders. Most of those named

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THE PRODUCTS.—No method has yet been brought forward which will enable one at the present relative prices of honey and wax to turn the whole working force of the bees, or even the greater part of it, into the production into wax instead of honey; in fact, the small amount of wax produced incidentally in apiaries managed for extracted or for section honey is usually turned into honey the following season—that is, it is made into comb foundation, which is then employed in the same hives to increase their yield of marketable honey. It is even the case that in most apiaries managed on approved modern methods more pounds of foundations are employed than wax produced. Hence less progressive bee keepers—those who adhere to the use of box hives and who cannot, therefore, utilize comb foundation—are called upon for their wax product. As each pound of wax represents several pounds of honey, all cappings removed when preparing combs for the extractor, all scrapings and trimmings and bits of drone comb, are to be saved and rendered into wax. This is best done in the solar wax extractor, the essential parts are a metal tank with wire cloth strainer and a glass cover, the latter generally made double. The bottom of the metal tank is strewn with pieces of comb, the glass cover adjusted, and the whole exposed to the direct rays of the sun. A superior quality of wax filters through the strainer.

Another method is to inclose the cappings or combs to be rendered in a coarse sack and weight this down in a tin boiler partly filled with rain water or soft spring water and boil slowly until little or no more wax can be pressed out of the material in the sack. Melting in an iron receptacle makes the wax dark colored. A special utensil made of tin for use as a wax extractor over boiling water can also be used.

CAUTION.—The beginner will do well to proceed cautiously, bearing in mind that much experience is necessary to enable him to turn to the best account seasons below the average, while during poor seasons it will take considerable understanding of the subject, energetic action, and some sacrifice, to tide over, without disaster, or at least without such great discouragement as to cause neglect and loss of faith in the business. On the whole, there should be expected from the raising of bees for any purpose whatever only fair pay for one's time, good interest on the money invested, and a sufficient margin to cover contingencies. With no greater expectations than this from it, and where intelligence directs the work, apiculture will be found, in the long run, to rank among the best and safest of rural industries.

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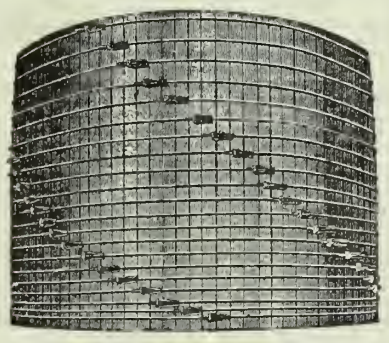
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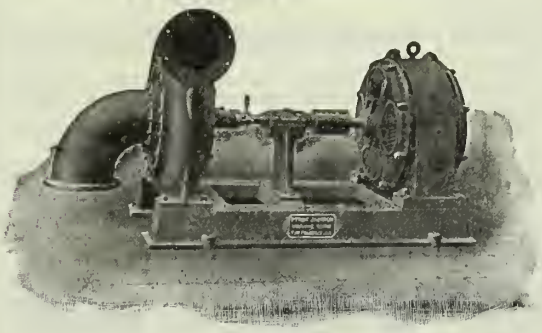
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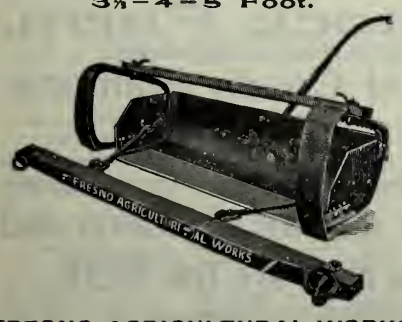
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THE VETERINARIAN.

Lumpy Jaw.

The Oklahoma experiment station had some experience with lumpy jaw, as some of the cattle purchased for experimental feeding showed well marked cases of the disease some time after they were purchased. The disease is easily recognized and most stockmen are thoroughly familiar with it. Since the disease has the common name of lumpy jaw, from the fact that it most frequently attacks the bones of the head and especially the jaw, many think it does not attack any other portion of the body; but tumors are frequently found in the tongue, in the tissues under the skin and in the internal organs.

By opening tumors that appear in the region of the head and neck, one can be reasonably sure whether the disease is lumpy jaw or not by the character of the pus. In an ordinary abscess or boil the pus is generally thin and watery, while that from the lumpy jaw is thick, yellowish and ropy, and, if the bone is diseased, there will be small, hard particles of bone mixed with the pus.

The cause of the disease is a vegetable parasite or fungus, which is generally supposed to be taken into the body with the food, and in those cases where the bones of the jaw are diseased the fungus probably enters the tissues through some small wound in the mouth, such chances for infection being especially abundant during the period when cattle are shedding or cutting their teeth.

In some cases the tumor may be dissected out when it is located in the muscles or loose tissue under the skin. The treatment employed by the station was the use of potassium iodide. Two things were learned in connection with the treatment, one being that the drug may be given with safety in larger doses than are usually prescribed, and the other that in many cases where the disease is not cured the trouble is that the treatment has not been continued long enough. This is especially true in severe cases or where the disease is of long standing. From the experience gained in treating the few cases referred to above the following is advised: Where the animals weigh over 700 pounds, give the potassium iodide in doses of two drachms each twice daily until the dandruff shows abundantly in the hair and the eyes become watery. This will usually take from five to seven days. After this condition, which is called iodism, is established, the treatment must be stopped for from five to seven days and then repeated as before with the interval of rest until the drug has been given for five periods in the severe cases and four periods in the milder ones. During the last two periods the amount of potassium iodide may be reduced to two drachms daily. In one case treated the animal appeared entirely well at the end of the third period when the treatment was stopped; but the disease reappeared after an interval of a few weeks and the entire treatment had to be repeated, when it was continued for five periods. The ulcers and tumors will begin to dry up and the discharge grows less as the treatment progresses, and by the end of the third or fourth treatment it has usually stopped; but the drug should be given for at least another period. When the above treatment is fully carried out, there will be a very small per cent of the cases that are not completely cured.

Answers to Inquiries.

By Dr. Norman Neilson, San Francisco Veterinary College, 510 Golden Gate avenue.

To the Editor:—We have two mares, both used moderately for farm work and driving. The younger animal, five years old, discharges a brownish fluid more or less, keeping her legs constantly soiled, but does not scour otherwise, as is the case with the other horse, about nine years old.

The latter is free from the aforementioned trouble, but usually scours after she has been driven a short distance, generally on return from town, 5 miles distant. This does not occur during work, nor when she walks hitched to wagon.—H. T. F., Santa Clara county.

The cause of the diarrhœa in the two horses is probably due to drinking stagnant water or eating mushy food. As the disease is aggravated by the horses being driven fast, see that they get a restricted supply of water, and at least one hour before working. Also, only small quantities of water during the day. Feed wholesome, nutritious food, free from mush or smell. Give the following drench to each horse once: Tincture of opium, ½ ounce; flour extract of belladonna, 1 dram; castor oil, 1 pint.

Norman Neilson, D. V. S.

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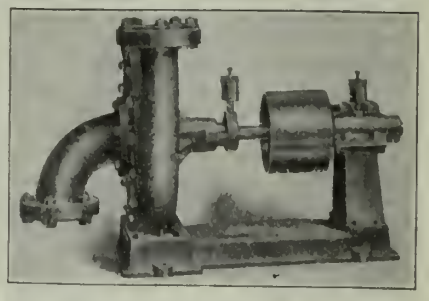
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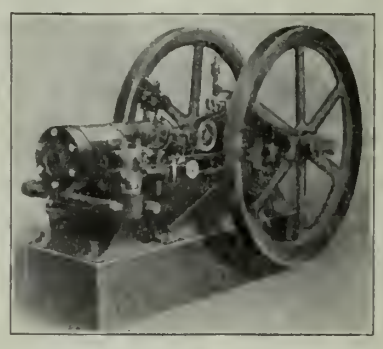
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THE VINEYARD.

Eastern Grape Growing.

To the Editor:—The largest and the leading feature of the fall show in the great horticultural palace of the Louisiana Purchase Exposition has been the immense exhibit of grapes made by the Consolidated Grape Growers' Association of New York. It reached its zenith on Horticultural day, October 4th, and has been maintained at the high level ever since. With several tons of grapes from the New York districts now going into cold storage it will be held at the top notch until the last day of the Exposition, December 1. On October 4th a collective entry was made in competition for a gold medal, and was found to contain 1229 plates, including seventy-one varieties of grapes. This was at the end of a week of excessive heat, which made it necessary to take from the table several entire collections, which would have run the number of varieties well over 100.

Up to the last week in October the total amount of grapes exposed on the table reached the number of 3000 plates. Over 125 varieties have been exhibited, including many seedlings from the State Experiment Station, which have never been grown in a commercial vineyard, and other seedlings originated by growers who retain the sole rights to them in their own vineyards. As a whole, it has been a remarkable showing of this industry in the Empire State, and one which has attracted the widest attention from horticulturists and public alike.

The exhibit is in charge of Mr. A. M. Loomis of Dunkirk, N. Y. "Our exhibit of grapes," he said, "has been the source of great satisfaction to me, and to all the growers from home who have seen it. We believe that it is the largest collection of grapes ever shown at any fair or exposition. Besides that, it is a striking demonstration to the great buying public of the middle West of the magnitude of our industry, the care we take in getting our crop to their market, the diversity of our varieties, and our ability to satisfy the most exacting taste in the matter of table grapes. We already supply the fresh fruit market of the United States east of the Rockies, and even to some extent west of that line, from the time our grapes reach maturity in September until the close of the season at Christmas time; but our output is growing and we want more grape eaters. There is no fruit so healthful and so much of a food. This is what our exhibit is designed to show.

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Mr. Loomis shows by the census figures of 1900 that there are about 60,000 acres of vineyards in the Empire State, and that in Chautauqua county alone there is one-half that amount, growing nearly 200,000,000 pounds of grapes—100,000 tons—or more than 8000 carloads annually. In the exhibit there has been no attempt at anything beyond a demonstration of the perfect quality and great quantity of this product. Observer.

St. Louis, Nov. 10.

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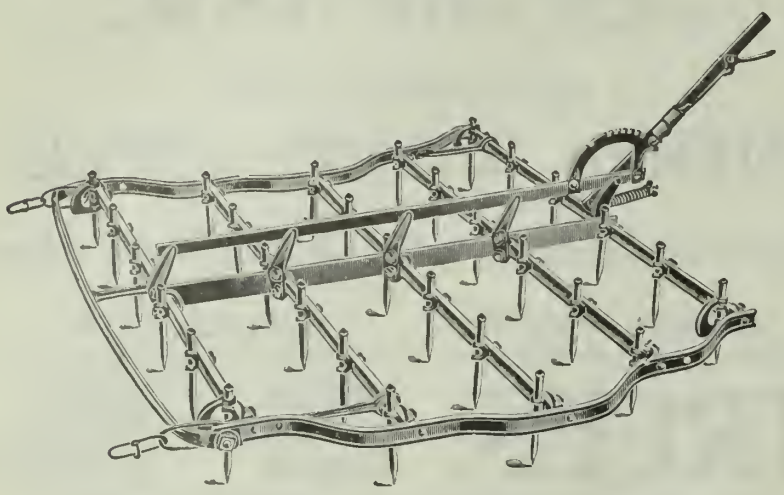
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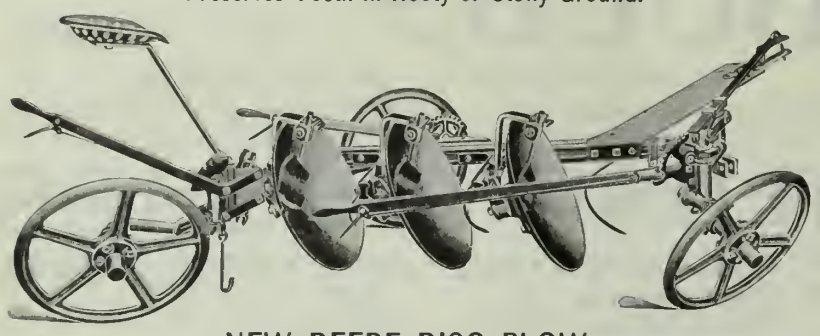
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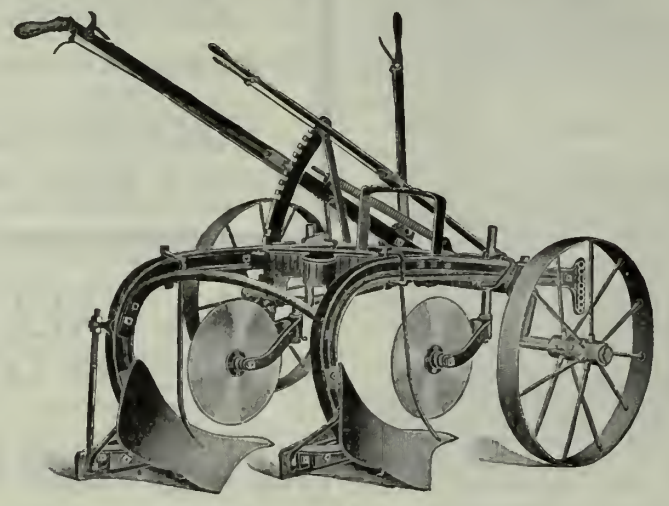
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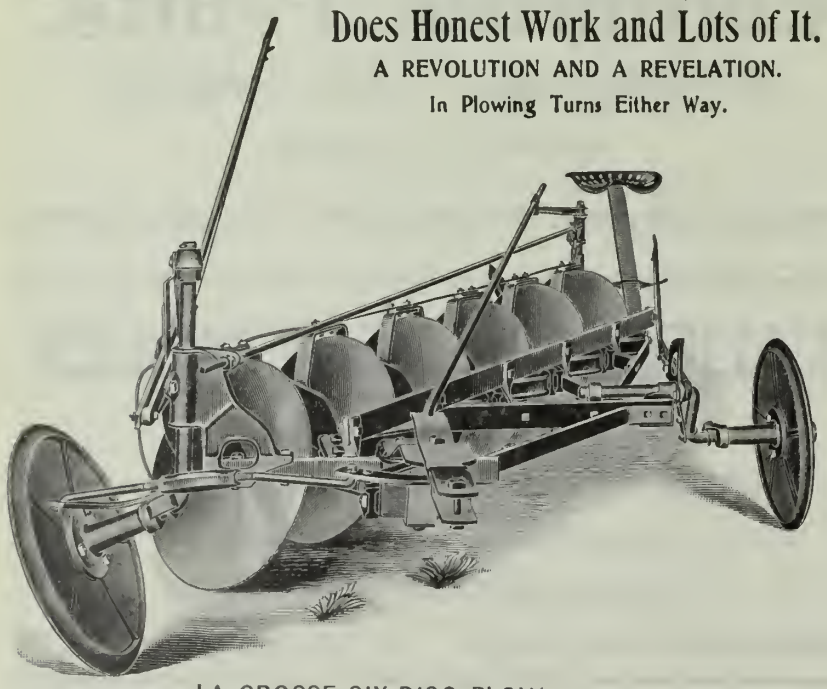
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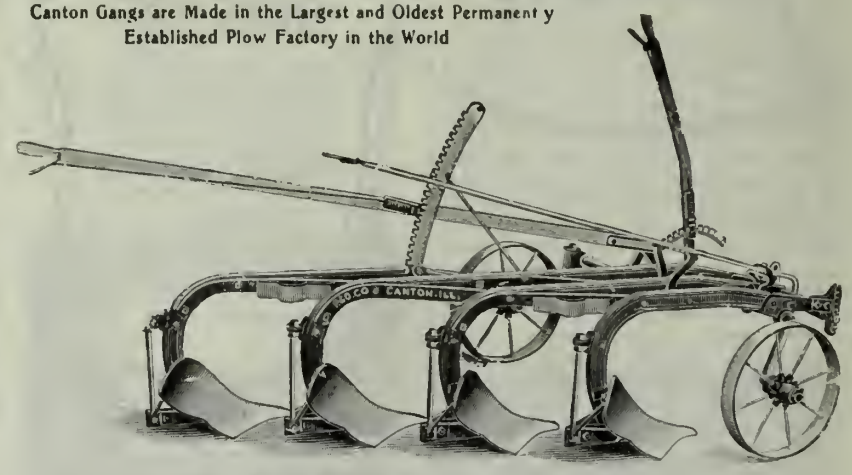
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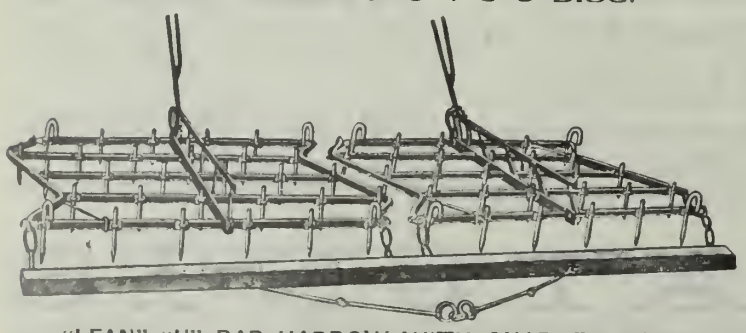
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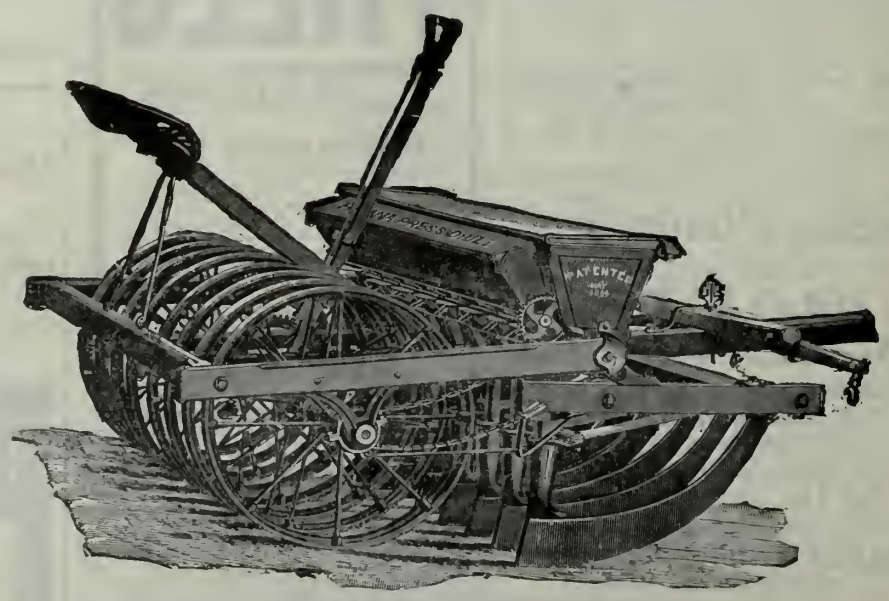
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AND CALIFORNIA FRUIT BULLETIN.

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California Rose Growing.

We are always glad to note the progress of open air growing in California of rose plants for distribution at the East. Of course we grow such plants in California for our own use and find them vastly better than the small house-grown plants from Eastern propagators, though even these probably do better in California than elsewhere, because our soil and climate produce such wonderful results with the rose. But the large and vigorous open air plants from California are incomparably better for Eastern conditions than the slim plants of the Eastern hot houses. And so there has come about during the last few years a great export trade in rose plants from the southern California nurseries to Eastern distributing points. Some of the conditions affecting rose growing in California can be inferred by the distant reader from the pictures on this page reproduced from photographs taken on the grounds of the Chase Rose Company of Riverside. Where such fences can be made of roses and where such rose trees can show such bloom during Christmas holidays there ought to be no need of argument as to the peerless adaptation of California conditions to the perfection of this flower.



Rose Cellar and Packing House of the Chase Rose Company, Riverside.



Rose-Clad Fence of the Chase Rose Company, Riverside.

As the trade has increased, so the facilities for the prosecution of it have advanced. The third picture on this page shows one of the best packing houses for rose shipment, and this also indicates the extent of the special line of business to which we refer. The main structure is of adobe and is probably the only one of its kind in the world. It has just been completed by the Chase Rose Company of Riverside, Cal., wholesale growers of rose bushes. It is attracting much attention and should prove a valuable lesson to nurserymen doing business in arid districts.

A glance through the catalogue issued recently by this firm would suggest that the semi-arid districts of southern California are especially adapted to the production of sturdy and prolific rose bushes. The stock offered in this catalogue is all propagated from field plants, and, as we have already suggested, Eastern buyers recognize the advantage of handling stock grown from outdoor-life bushes, as compared to the progeny of hothouse growth. The desert sun gives wonderful qualities to the Iron tree, Palo Verde and Mesquit, and the same is claimed for stock grown at Riverside, as the location is 60 to 80 miles toward the desert from the ocean. The long growing season gives big bushes, which are all sold after one year's growth in the field, most locations requiring two seasons to grow stock of required size.

About the first of January each year they ship to St. Louis all their output except the stock ordered in advance by their Pacific coast customers. From St. Louis it is distributed throughout the East as desired, the Southern States requiring their rose bushes several weeks earlier than the Northern. The trade is unique and interesting, and promises to expand, for the California climate embedded in rose bushes really has no rival on this continent.

AT the National Irrigation Congress at El Paso, last week, addresses and papers by eighty-seven of the most prominent experts in their respective departments were included in the programme.



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SAN FRANCISCO, NOVEMBER 26, 1904.

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The Week.

It is Thanksgiving week, and this issue of our journal is prepared one day earlier than usual to give our employes in all branches of the establishment to express the thankful spirit in the way which seems to each most fitting. On this western edge of the continent, afar from the region in which the celebration of Thanksgiving Day arose as an annual institution, and with a population composed but in part of those to whom the holiday did not come as a birthright, it is not strange that the time honored customs and methods of Thanksgiving observance should not take so firm a hold as in some other parts of the national domain. The newcomer from such parts should not, however, conclude that Californians do not revere the spirit and motive of Thanksgiving, although they may attend less to the old forms of manifestation. Californians are, it seems to us, a very buoyant and thankful people, and they certainly have exceptional reasons so to be. Surely there are few places on the earth's surface where the Creator dispenses creature comforts with a more lavish hand, and none where all the blessings of enlightenment and the callings to the higher life, with its rich endowments and its influences toward ennoblement, are more clear and impressive. We believe, also, that there is no place where such promptings to the soul are more generally heeded and manifested in the daily walk and conversation. It is the common comment of visitors from a distance that the life horizon of Californians has higher colors than that of other peoples. And what is this but the acting of the Thanksgiving which fills the heart—the spirit of the golden rule motivating the life? In the presence of such a declaration of Thanksgiving, then, let the one who notes the absence of certain forms console himself that possibly he may overlook the substance in his search for a particular form of shadow. At all events let him not lose his own thankfulness through apprehension that others may not have it. This danger always threatens those whose tendency is great to criticise and arraign their fellowmen, and though the abiding faith and practice of Californians is to be thankful and joyous, a few can always be found who delight to rise in condemnation, in grim apprehension, in bitterness. To them let us appeal to-day; lose not your souls for the woe you see in others. Dislodge the beams from your own eyes and you can more properly estimate the motes in others' eyes, and, thus measuring them, the discovery of their minuteness may make you glad indeed.

Speculative wheat declined considerably since our last issue and but partly recovered; spot wheat is unchanged, but weak. There have been no charters and but one clearance—a cargo of barley for London. Barley is firm for spot and a little higher, especially for brewing and export. Minor cereals are firm and unchanged. Beans have a wide range, being firm for choice and irregular for off grades; Limas are stiff and said to have been sold short at 3 cents, while the asking price now is 4 cents. That Peruvian will not have much of a Thanksgiving. Bran is firm, while middlings are in good supply and easy. Hay is unchanged; choice hay plenty and medium grades relatively high. Beef and mutton are firm, but not higher, excepting the fancy price on some Thanksgiving stock. Hogs are firm. Butter is a little steadier and some has been shipped. Choice fresh is likely to go East at moderate prices. Cheese is unchanged. Eggs are in a little better demand, though arrivals are more free and prices no better. The poultry market is all turkey and very strong. There is little Eastern stock in except some on ice, but a few have come alive from Oregon and Texas. Potatoes are in good demand for the best and steady, but lower grades are in heavy supply. Onions are slightly firmer. Apples are still in excess and more coming from a distance. Oranges are in good supply and fair demand, but easier. Lemons are firm and stock moderate. Dried fruit is in better shape than for a long time, and it looks like a clean-up before the end of the season; apples are the only weak spot in sympathy with Eastern markets. Prunes are steady, with stocks steadily reduced. Nuts are strong if of desirable quality. Honey is unchanged; firm for fancy, easy for lower grades. Hops are quiet with an attempt to concentrate all now in growers' hands. Wool is as strong as ever, and little here.

The able argument by Mr. J. H. Reed of Riverside for the formation of a pomological society, which we publish on another page of this issue, ought to make a permanent impression on the horticultural history of the State. The old State Horticultural Society died when the culture methods which it championed became generally known and adopted. The State fruit growers' conventions have gone largely to commercial considerations. There is a need for quiet and earnest pomological work. Mr. Reed's argument should bring it into existence. We believe in it and, therefore, commend Mr. Reed's careful paper to all readers in fruit lines. It ought to be actuated by all assemblies and organizations. There will be sense, science and satisfaction in it.

You do not expect to get much for the box when the fruit is gone—it is good for kindling. That seems also to be the case with the California building at the World's Fair. The Commissioners report that all they are offered for the building, which cost some $15,000, with all its equipment, exclusive of the furniture, is $150. For doors in the forestry building, which are worth $75 in California at the factory, they are offered $40. For sugar pine and redwood planks worth $50 and $60 a thousand in California, they are offered $20 a thousand, and for the 500 valuable plants collected in California there is practically no sale. Over 50,000 plants have been thrown on the market for anything they will bring and many foreign exhibitors are donating their plants to private collections. St. Louis will have enough kindling wood and bric-a-brac to last for a decade, and they are raking it in for a song. This is one of the resultant benefits of being an exposition town.

There will be a convention of all interested in forestry, under the call of the Water and Forest Association, in this city on Friday, December 2, at 10:30 A. M., at the Chamber of Commerce. The approaching session of the Legislature makes the convention of high importance to the irrigation and forestry interests of the State, as it will determine upon the legislation to be pressed at Sacramento. A bill has been prepared and will be submitted to the convention, dealing with the problems of preventing forest fires, the extinguishing of fires and care of forested lands. The enormous losses each year to the State and to owners of timber land through conflagrations make this bill one of great and immediate importance. In its present form it provides for a chief forester and assistants and fire wardens in the various districts. Every county, city and district interested in the problems of forest preservation, as well as irrigation, is requested to send delegates to the convention, instructed to the wishes of the people in regard to legislation.

QUERIES AND REPLIES.

Trees to Plant—Fig Grafting.

To the Editor:—I have your book "California Fruits," and am much pleased with it. I would like your advice in regard to best timber and fuel trees to plant here, and the best thing to do with unprofitable fig trees.—Beginner, Auburn.

The best way to find out which are the best timber and fuel trees for you to plant is to look about through your district and find out which trees are growing most rapidly and satisfactorily. You can get from the owners of the places the age of the trees, and as the vicinity of Auburn is an old settlement and very much has been done in the way of tree planting you can get information in this way that would be thoroughly trustworthy and practical. We would like very much to have such a tree survey made of all the older settlements of the State and a report published embodying the results of such an investigation, but it does not seem at present to be possible to provide for this. We have, therefore, to advise you to do a little tree survey on your own account.

The best thing to do with unprofitable fig trees is to graft them over to some variety which is satisfactory in the district. The method of grafting old fig trees, described on page 326 of "California Fruits," third edition, is a very satisfactory method. If you write to Mr. Geo. C. Roeding, Fresno, asking for his pamphlet on fig growing and fig grafting you will find another method described which is also good. In this way you can transform your trees into the true Smyrna, putting in also a number of Capri grafts to harbor the insect necessary for the caprification of the fig, or you can choose some other variety of table fig which may be satisfactory in your locality. It is a good thing to get acquainted as soon as possible with the other fruit growers of your district and learn from them the results of their experience. You must always beware, however, against a certain amount of pessimism which you will encounter in all districts which will lead many people to say that certain things cannot be done. Such judgment is not always conclusive and should not deter one from a certain amount of experimentation. You can, however, gain much assistance by making direct use of positive statements as to what has been done. The local fruit grower's positive is much more useful than his negative.

Chips and Sawdust As a Fertilizer.

To the Editor:—Will you state the value as a fertilizer of fresh redwood and pine planing-mill chips and sawdust? I am informed that where live oak sawdust had fallen on the soil a luxuriant growth of vegetation followed, and accordingly it is assumed planing-mill shavings possess considerable manurial value. I am unable, however, to agree with this view, but think it possible the manurial effect on heavy soils may be beneficial; but if true, is there not danger when decomposition has taken place of serious injury from fungus?—Old Subscriber, Palo Alto.

Your opinion is correct; you ought to be answering questions rather than asking them. Chips and sawdust are of most value in heavy clay soils, in which their chief influence is mechanical and they are of least danger because the close texture and greater moisture promote decay and decrease the chance of fungus growth. The plant food in wood refuse is not available until the woody fiber is completely broken down by decay, and this is a very slow process. On a light open soil we should not use chips and sawdust at all, and on heavy soils, sparingly.

Winter Storage of Vegetables.

To the Editor:—I have a number of fine cabbages in the garden which ought to last through the winter, it seems to me. Left in the ground they are being eaten by slugs. Could they be removed and put into a bin of dry sand? Or what could I do? I would also like to know about the proper winter care of turnips, salsify, carrots, parsnips, beets, etc.—Amateur, San Rafael.

It is usual in California to allow such vegetables to remain in place, taking them fresh from the garden all through the winter. They may be protected from slugs by the use of quicklime dusted upon the

ground in sufficient quantity to discourage them, but if the ground is kept cultivated at frequent intervals during the winter, allowing the surface to become dry, they will be protected, because slugs do not make headway over dry, pulverized soil. Roots like turnips, salsify, parsnips, carrots, beets, etc., are kept in much better condition in the soil than in artificial storage, unless you should have a place where the freezing is very hard or where water is apt to collect in the soil in winter. Any good, well-drained piece of garden loam is not open to these objections, and the roots remain in good condition all winter. If, however, this common method does not suit your case, you will have to resort to the same arts which are used in the East; that is, to store the vegetables in sand, in that way to prevent their drying out too much during the interval of dry winds, etc., in the rainy season. Cabbages can be kept by gathering them and burying the head in sand and allowing the roots to remain above the surface. In all storage propositions for cabbages it is better to pull them up and not cut them from the roots. Storage of vegetables is better in the open air than in cellars, because the close air and heat of the California cellar promotes decay.

Gros Colman Grape—Fig Shelter.

To the Editor:—Please tell me through the columns of the Pacific Rural Press if the Gros Colman grape is a good variety for a late table grape and advisable to plant in this locality? Is it necessary to build a covering over the Capri fig to protect it from frost?—Beginner, Dinuba.

The Gros Colman grape is perhaps our handsomest dark grape, of splendid size when well grown, with rather a loose bunch (which would adapt it to shipment), and good keeping quality. In some parts of the State it has the defect of cracking and to run rather small; however, we understand that grown in your valley it is not open to these objections, and those whose judgment should be good declare that it has a fine outlook as a late shipping grape. This, however, is a matter which can only be determined by experience, both with its carrying quality and reception in distant markets. Usually the white and red grapes are more acceptable to Eastern buyers than the black. We do not feel justified in advising you to plant any quantity of it with the idea of distant shipment, because these points are not yet fully determined.

It is not necessary to build a covering over the Capri fig in most of the valley points and it should certainly not be necessary in your district. When the fig insect was first introduced it was apprehended that it might be necessary to establish Capri plantations in the lower foothills east of the valley, and experience has shown that for the last three years the insect has wintered successfully right in the valley districts where the Smyrna has grown. What might happen if an exceptionally cold winter should come of course is a matter of conjecture.

Flower Growing.

To the Editor:—I am a newcomer from the East and am thinking of going into flower gardening. I wish to know if carnations, orchids, violets, etc., will grow successfully here; also the address of some publisher on flowers on the coast, also some seed houses. —Newcomer, Fruitvale.

You can certainly grow carnations, violets and a host of other flowers successfully in the open air in your locality, and will secure very gratifying winter blooming. Orchids, however, will require careful attention to very sharp requirements in the matter of heat and moisture and must be house-grown, as they are at the East, except, of course, that in this climate much less firing is required. There is no comprehensive book on flower growing in California, nor is there a special journal devoted to that purpose. Several of the latter have been undertaken, but have failed for lack of support. You will find valuable suggestions in the catalogues of the leading seed houses, which are advertising in our columns.

We can not tell from your letter whether you refer to flower growing as a commercial proposition, or merely for the gratification of an amateur. If you intend to take the matter up commercially, it will be advisable to start in a small way, learn by experience and by conference with the San Francisco florists whom you must expect to supply. Commercial flower growing is possibly less successful in California than at the East, because our climate is so favorable that everyone grows flowers, and the prices from San Francisco decorators and florists are, as a rule, rather low. To find out what they want, however, and when they want it, and then adapt your cultivation as closely as you can to attain those ends, will constitute the most important things in such an enterprise.

Sorghum Growing.

To the Editor:—Please tell me how you put in Egyptian and Kafir corn on irrigated land. My land is in checks varying in size from two to five or six acres, with a 3-inch drop, but it is not leveled off very well, and the water will be 6 inches on the lower side when it just covers the surface on the upper side. I would like to put it in so that I could cultivate without having to tear down my levees. How do you think it would be to irrigate the land first and then list the seed in? I think it would not be necessary to irrigate before I had cultivated once, or maybe twice. Please give me what information you have on the subject.—Farmer, Brawley.

It is quite possible for you to grow Egyptian and Kafir corn on the land in the way you mention. You can thoroughly wet down the ground before planting, put in the seed as you propose, and the plant would make a considerable growth before it is necessary for you to irrigate again. Would it not be possible for you to distribute the water in furrows inside the check, making furrows inside for the running of water without taking down the levees? This method of distributing inside the checks, when the checks are large, is used to some extent in other parts of the State.

Garden Slugs or Snails.

To the Editor:—What can be done to combat the snails, if anything?—Reader, Fruitvale.

Garden snails are exceedingly difficult to destroy. Sprinkling powdered lime on the infested ground around the plants destroys many of them. Some people protect choice plants by hand picking of snails after dark, using a lantern to discover them. The best way of all, however, to reduce the bad effects of snails is to keep the surface of the ground cultivated as much as possible during the rainy season. This gives the surface an opportunity to become dry, although the ground beneath will be moist, and snails cannot make any headway upon a dry, pulverized surface. If, however, the garden bed is allowed to become hard during the winter season it makes a perfect parade ground for snails which they enjoy to the fullest extent. So far as we know there is nothing except the use of lime and the constant loosening of the surface between rains which will check their work, unless one has recourse to trapping, small pieces of board placed upon the ground surface under which the snails collect in considerable numbers, and they can be crushed upon these boards, or fed to chickens or otherwise disposed of. Some success is occasionally reported with poisoning—using cabbage or lettuce leaves dipped in water in which Paris green is thoroughly stirred, one ounce to five gallons, dipping before the poison has a chance to settle to the bottom.

Cutting to Kill Roots.

To the Editor:—Is there any method of killing the tree, and roots as well, of the Paradise tree? We have found that, if the parent tree is simply cut down, innumerable shoots will spring up that are injurious to orchard trees. We have two trees of this variety that we wish to destroy.—Orchardist, Vacaville.

There are some trees which are hard to kill, and nothing but grubbing out the roots as the suckers appear seems to effectively handle them. The best thing we can advise is to chop down the trees at the time when they are in fullest summer growth—that is, when the sap is "all up," as the common saying is. Do not take them out in the dormant season, because that promotes activity of the roots the following season. Let the roots exhaust themselves fully in making top growth, and then cut off the top. If this does not work with the Paradise trees, we know nothing except the process of grubbing out.

That Fluorided Butter.

To the Editor:—I remember reading several weeks ago a paragraph in your paper referring to some French discovery of some chemical preservative of butter, which was not only perfectly harmless, but in itself a good digestive. I would feel greatly obliged if you could kindly inform me through the query column of your paper the name of this chemical. —Subscriber, Auburn.

The paragraph was in the Pacific Rural Press of August 6, 1904. The substance mentioned is fluoride of sodium—from one-eighth to one-half a gram to each pound of butter (that is, from two to eight grains, apothecary's weight). It is applied as a powder and worked in as salt is. It is a French prescription; we do not approve it, as we do not know anything about it beyond the statement. Allow us to suggest that readers should keep their papers on file and make back references for themselves. We are too busy to do much repeating.

WEATHER AND CROPS.

Report of the U. S. Weather Service for Week Ending November 21, 1904.

Alexander McAdie, Forecast Official and Section Director.

Sacramento Valley.

Generally clear weather prevailed most of the week, with morning fogs in some sections, and the temperature was nearly normal. Light frosts caused no damage. The rain Monday night and Tuesday was very beneficial to early grain and grass and improved the condition of the soil. Plowing and seeding have been resumed in all sections and a large acreage of grain is being planted. Early sown grain continues in excellent condition and is growing rapidly. Green feed is abundant and of good quality. Stock are doing well. Olive harvest is progressing and the yield is reported large. Oranges are coloring satisfactorily and shipments are increasing; the fruit is of good quality and the yield about average. Walnut harvest continues.

Coast and Bay Sections.

The temperature was nearly normal and the weather cloudy or partly cloudy during the week, with fogs in the coast districts. Rain fell in the central and northern sections Monday night and Tuesday and light showers occurred in portions of the southern districts. The frosts Saturday morning were too light to cause damage. Plowing and seeding are progressing rapidly in all sections except a portion of the south, where the soil has become too dry. Early sown grain is making good growth and looks well. Green feed is plentiful in most places and stock are in prime condition. Corn in the Russian river districts is turning out better than expected. Good crops of walnuts and olives are being gathered. Oranges continue in excellent condition.

San Joaquin Valley.

Partly cloudy and cool weather prevailed during the week, with scattered light showers Monday night and Tuesday. The showers were too light to admit of material benefit. Very little progress is being made in plowing and seeding, owing to the dryness of the ground. Early sown grain and grass are making good growth and green feed is plentiful. Stock are healthy and in good condition. The raisin crop is all under cover. Olive picking is progressing in the Lodi district and the crop is fair to good. Orange picking is progressing rapidly and large shipments continue. Rain is needed in all sections.

Southern California.

Clear, warm weather prevailed during the week, with heavy dews at night, which were beneficial to vegetation. Late fall crops and pasturage are being seriously injured by the continued dry weather and rain is greatly needed in all sections. Farm work has generally been suspended, owing to the dryness of the soil. Walnut harvest in the Anaheim district is completed; the crop is below average. Olive picking and pickling are progressing and an excellent crop of guavas is being gathered. Oranges are coloring slowly; the fruit is of good quality, but the yield will fall below average.

Los Angeles Summary.—Clear, dry weather continued, with warm days and cool nights. Lack of rain continues. Irrigating water holding up well in places, and diminishing in others; while farmers are anxious, they are not apprehensive.

Eureka Summary.—Grass and grain are still making good growth. Some farmers have a good portion of fall crops in, but farm work has been much delayed by rain.

Rainfall and Temperature.

The following data for the week ending 5 A. M. Wednesday, November 22, 1904, are from official sources and are furnished by the United States Weather Bureau for the Pacific Rural Press:

California Stations.	Total Rainfall for the Week	Total Seasonal Rainfall to Date	Total Seasonal Rainfall Last Year to Same Date	Average Seasonal Rainfall to Date	Maximum Temperature for the week	Minimum Temperature for the week
Eureka	.10	7 64	13 52	9 78	62	50
Red Bluff	.00	9 50	8 38	4 63	64	38
Sacramento	.00	6.24	3 54	3 29	64	38
San Francisco	T	7.85	4.40	4 82	62	50
Fresno	T	5 05	.68	1.65	70	38
Independence	.00	.47	.42	1.02	66	34
San Luis Obispo	.00	4.69	.50	3.86	74	38
Los Angeles	.00	1.13	.43	1.96	84	48
San Diego	.00	.16	.07	1.04	82	48
Yuma	.00	.81	.66	1.16	82	42

HORTICULTURE.

Need of Organizing for Closer Study of California Fruits.

By Mr. J. H. Reed, of Riverside, at the State Farmers' Institute at the University of California, Berkeley.

The Problem.—While we are proud of our California fruit industry, we are obliged to give credit for its achievements largely to our native advantages, and to commercial enterprise, rather than to systematic study and work in pomology. Our horticultural clubs, farmers' institutes, fruit growers' conventions have done much in a general way to promote our fruit interests, but their work has necessarily been more of a popular nature, with reference to near at hand, commercial results, than in way of continuous investigations, with careful records, conducing to permanent prosperity. We now begin to feel the need of this more systematic work.

Citrus Fruits.—Our citrus industry in the South, for instance, prospered from its early development. Native conditions favored it. It attracted capable men and ample means, and was generally profitable. The increase of product has been phenomenal--nearly fifty fold in twenty years.

Because of the cost to the consumer, thus far it has been largely taken as a luxury. But of late it is found that with the immense increase, this demand is now well supplied, and profitable marketing becomes more difficult. Yet there is an immense additional increase in sight for the near future. Even our older orchards are yet increasing their product. Our industry is not old enough to determine how long this may continue. Besides, large acres of new orchards have been and are being added annually. This large annual increase must now be reckoned with, if our industry is to continue prosperously. The market price of any product is determined by what the surplus, beyond the amount the usual market takes, may bring. Hence the serious problem California orange growers face to-day. So far as I can learn this is also true of the deciduous industry. Could we, as some manufacturers do, send our surplus abroad at even below a fair home price, or were we in position to control production, or even destroy, or turn the poorer fruit into bi-products (a project easy to advocate by those who know nothing of the real conditions), the seriousness of the problem would be greatly modified. But at present, at least, none of these means of relief are available. The margin of surplus must go on increasing till the marketing of the entire product is demoralized, or provision must be made for the entire increased product to be marketed profitably. The latter is, without doubt, practicable.

Conditions of Permanent Prosperity.—Its accomplishment will largely depend upon two basic factors:

First—We must make our fruit, as a rule, so inviting as to command general attention.

Second—We must produce and market it so economically as to make it available to a largely increased consuming public.

In our haste to secure quantity, we have neglected quality. We do not produce so large a proportion of strictly choice fruit to-day as we did some years ago. The average quality is declining rather than improving. We must set about changing this, or soon have a greatly increased quantity of a product so deteriorated as to be unprofitably marketed itself, and a hindrance to marketing our best fruit. As in other agricultural products, if left to the average individual, it is easier to increase quantity than to improve quality. The needed processes of the latter are less quickly understood, more difficult to carry out, and results less direct and immediate, hence the importance of organized, mutual help.

Again, our citrus industry at least has been considered almost entirely from the commercial standpoint, as affecting immediate values, with little far-sighted planning for permanent prosperity. The proceedings of our public gatherings and the literature of papers are voluminous concerning present outcome of our orchards, while careful investigation looking to permanent improvement commands slight attention.

Many men with means but no taste or fitness because of expected immediate and large returns from investment, have engaged in an industry which to be permanently successful is more exacting, demanding better preparation than most trades or businesses for which special and long training are always required. It is true we have many well-trained, enterprising, successful orchardists, but lack of organization renders them largely impotent, in any effort to effect general, progressive measures.

This, I think, will be accepted as a fair statement concerning our citrus industry. No imminent danger is portending; in fact, because of a lighter crop and other favorable conditions, we have at hand what promises to be an exceptionally good season. But this does not blind the thoughtful grower to the inevitable average increase of several thousand cars of oranges each season, indefinitely, nor to the gradual increase of competition from Florida and the West Indies.

Deciduous Fruits.—Of your great deciduous fruit interests here at the north I cannot speak so confidently, but from my limited observation, and from what I am told by those immediately concerned, in some branches, at least, similar conditions prevail.

It is manifest to all who have traveled in the East recently that larger areas are being planted and more study given to fruit growing in some of the more favored States than ever before. The remarkable results from cold storage and other government expert investigations have given the industry a new impulse. But with all their new enterprise and scientific work I have no fears of the continued supremacy of our deciduous fruits in the Eastern markets, provided equal study and enterprise are given to their improvement and management. But we must not depend too much upon our native advantages.

The eyes of the world are turned upon our California fruits. They are found on nearly every fruit stand in the land. But are we quite satisfied with what we are doing to retain this prestige? It is not enough to have fine samples displayed at exhibitions or in a few fancy fruit stores. We must see to it that the highest quality, as well as appearance, is kept on the common fruit stands, and available to the common customer as to cost, if our fruits are to continue to be sought for so generally.

Organization the Solution.—It is believed by many who have given this matter careful thought that a wisely planned, organized effort on the part of those thoroughly interested in fruits and fruit growing beyond immediate commercial results might accomplish very much in developing wisely and more rapidly the possibilities of our favored climate and the varied conditions which enable us to produce well nigh the entire list of known fruits, almost to perfection, and make California even better worthy of being recognized as the fruit garden of the world.

In our citrus fruits, at least, we now have no generally accepted standards of quality--of clearly defined characteristics—which go to make fruits most desirable, as determined by market, as well as expert individual tests.

Little attention is paid to pedigree in propagation or to improvement in quality by selection and culture—a field offering wonderful possibilities. There are a sufficient number of individuals in most fruit growing centers, if properly organized, to change all of this. It has not been for the lack of intelligence in the average grower that it has not been done, but because we have been so immersed in the immediate commercial side of our work, and because such advancement in any industry depends largely upon organized effort.

Some of the Advantages of Organization.—The present most unfortunate condition of the nomenclature of our California fruits might be quickly remedied to a large degree by a suitable organization.

Nomenclature—The American Pomological Society has done and is doing most important service for the fruit interests of the country in this regard. But for obvious reasons our far-off State has received little practical benefit from it. Much annoyance and real loss arises from the lack of systematic naming. Many of our new deciduous fruits, especially our small fruits, are exploited in name as well as description in the interest of nursery men instead of growers. An accredited organization, with a proper standing committee for the purpose, would prove of great value to the industry at large and especially to newcomers desiring to engage in fruit growing.

Adaptation of location as to climate, soil and other local conditions needs organized attention. In most Eastern States, when a given fruit is found adapted to a given location, uniformity of natural conditions makes that fruit available for a large adjacent area, while here in California every valley and foothill needs to be exploited by itself before we know its best capabilities for fruit production or its damaging disadvantages. This experimenting has been going on down in our country, in an individual way, for a quarter of a century, and it has proven most expensive to the individual and to the State. You hear of the successes—our failures are not advertised. Yet in a quiet way every failure finds a way to discourage some one from trying his fortunes with us. These experiments of newcomers are going on and will continue to go on so long as present lack of intelligent investigation and publicity continues.

Had it been part of a well organized society in a given section to study, carefully record and make public results under widely differing natural conditions, many of the constantly recurring, expensive mistakes would have been avoided long ago. To-day oranges are being planted where well-known conditions make it impossible for any citrus fruit to permanently succeed. And the same with other fruits. I can take you to considerable areas that have been planted to as many as three kinds of fruit consecutively, within a few years, all but the last proving failures from unavoidable conditions that might easily have been known before the first planting. Thousands of acres of deciduous fruits in southern California have proven misfits, unprofitable, and have been abandoned or replanted. This could have hardly occurred in recent years had there been pomological societies having made systematic study of these local conditions. Sometimes men are led into these mistakes by interested parties; sometimes from lack of caution on their own part. It is amazing what risks men will take in this way without suitable investigation, involving capital and years of labor. The man who invests in land for grain and stock, finding himself badly located, may quickly remedy his mistake, while he who makes an orchard and finds it for any reason a failure, has lost not only his labor and capital but an important block out of his lifetime. In view of the increasing numbers flocking to this shore to find homes because of the glowing inducements we keep before them in the East, it seems to me some obligation rests upon us to prevent these often disastrous mistakes so far as practicable. It has been the prospect of thousands of these newcomers to find a little fruit farm to support them while enjoying life in our inviting climate. I am not sure but the helpfulness to them and to the Sthte, by aiding many to succeed instead of fail, would alone be sufficient reason for such an organization as is proposed.

Aid to Economical Production.—In addition to the study of fruits proper, and the environment best suited to their perfection, I think there are special investigations as to economical production which could legitimately and profitably be encouraged by this same organization, because of the methodical, continuous work required. And especially so now when our University is taking up new and wider work of helpfulness to farmers. Allow me to illustrate: The University sub-experiment station at Pomona, under the efficient supervision of Mr. J. W. Mills, has rendered some excellent service in the fruit department. He has made it as practically useful to fruit growers as the limited means that could be allowed him made it possible. But had there been active branches of a pomological society in fruit centers in the region of that station, to take up the results of the expert work, help make them public, urge the adoption of such as seemed conclusive, and continue tests of others in a more practical way than is possible at the station, I am quite of the opinion that the practical net value of this feature of the department work would have been fully doubled.

There is valuable laboratory and other work pertaining to fruit interests carried on at the University, which in my opinion could be increased in practical importance, in the same proportion, by such organization. In theory, publicity through bulletins seems sufficient. In practice, I think those who have given the matter attention, agree that results from them are disappointing. Organized effort, with the use of the local press, I am sure would very greatly increase the number availing themselves of the results of this University work. The importance of this feature seems to me so great you will allow me to dwell upon it a moment longer.

There is much talk, to use no stronger term, of the lack of connection between the work of the State department and the practical work of the farm. Now, however, much cause there may be for such complaint, there certainly is far greater lack of effort on the part of us fruit farmers, at least, to make the best use of its direct teachings and results of its expert investigations. If I comprehend aright the object and limitations of the service expected to be rendered by the State department, they are by no means available to the farmer to demonstrate valuable principles and practice, and it is the farmer's business, singly or combined, to help make these results intelligently known, and urge their use in common practice. Till we have done our part we have not good reason to complain that university teaching does not reach the farm—yet we cannot escape the fact that much valuable university effort does fail practical materialization on the farm. And this will probably continue till organization of the more progressive steps in to fill the gap. The new livestock breeders' association is now ready to take up results from experimental work by the University, which it could not have carried on itself, and help make its influence felt in every herd in the State. The dairymen's association helps make results of expensive investigations in that department available to the entire dairy industry. Yet the most important industry of the State is groping its way along without any adequate organization to look after its special interests. It is true it has prospered in spite of this handicap, but by no means up to its possibilities.

Orchard Fertilizing Investigations.—Now, new and serious problems confront us. Orchard fertilization is one of the more important. The field manager of one of the largest citrus holdings in the State, for years a persistent student of fertilization, constantly utilizing results of both State and National investigations, as best he can, and spending thousands of dollars in individual experimenting, when consulted as to asking our Department of Agriculture to come to our assistance, said, "We are guessing yet, and it is too expensive. It is time we knew something. Such a project will have my best wishes and every assistance I can give it." I have occasion to know that this is the general sentiment among our most intelligent and experienced growers to-day. When profits were larger it did not matter so much. Now the difference between knowing and guessing in the item of fertilizing alone may easily determine the difference between profit and loss of the orchardist. I am fully convinced that the advantage of exact knowledge on this single item of orchard economy,

which we may be easily helped to, would much more than pay the entire expense of our College of Agriculture and all of its accessories. The manager of one of our large orange ranches said to me but the other day, "For reasons which seemed sufficient we cut our fertilizer bill down this year by $10,000. But I don't know. It may prove a bad mistake." I emphasize the importance of this problem that you may appreciate better the application I wish to make.

Our Agricultural Department is now initiating practical field investigations into citrus orchard fertilization so comprehensive in extent and time as will, without doubt, give us this definite practical knowledge to a very large degree. These investigations necessarily must be co-operative—the Department furnishing the scientific expert work, the growers the orchards upon which the work is done and the labor for manipulating the soil and water, under the supervision of the experts. Under present conditions the Department must deal direct with individual growers or self-appointed parties who chance to be especially interested. Now, if there was an appropriate committee of an accredited pomological society to take charge of the growers' interests in conjunction with them, with whom the Department could deal, you readily see the vast advantage it would be to both parties. But by far the greatest advantage would be in extending the benefit from these expensive investigations. Representing the branch societies in the citrus centers this committee could, through their membership and the local press, keep growers advised of what was being done, and of results when obtained.

Without such organization, a few progressive orchardists, and managers of important combinations—those who need it least—will be alert in keeping in touch with the investigations, and quickly utilize results, while to the average grower, the benefit would come but slowly if at all. It is of far greater importance to the State as well as to individuals to reach an hundred ten-acre orchardists than the manager of a thousand acres.

I think you will not accuse me of exaggeration when I insist that in this instance also, such organizations might add 100% to the value of the State's expenditure.

And this is but a single sample of the work, touching directly our fruit interests, which our Agricultural Department is doing, and is to do in yet larger proportion in the near future.

State or Local Organization.—The need of the suggested organization in our orange industry has grown upon me for years and I have thought with others whose interests are wholly in that department, that it might be better to confine the effort to the citrus sections. But I am inclined now to think there are broad minded men enough, sufficiently interested in California fruits as a whole, to form a successful State organization, with affiliating branches in all considerable fruit growing centers. While the local organizations would spend their principal efforts in the study of fruits and fruit growing problems more immediately concerning their special locations, there would be enough considerations of general importance to bring representatives of the various branches together, to their mutual advantage. If it did nothing more than to make us better acquainted with what is being done in our far-separated and widely differing localities, it would prove of real value. I have to confess that some of us, immersed in our orange groves at the south, sometimes get to thinking that when people talk about California fruit they mean oranges. And I have occasion to know that some of our great deciduous growers at the north think of the citrus product as a minor matter in California's great fruit output I can conceive of delegates from local societies in the apple districts about Watsonville, the prune sections of Santa Clara county, the great peach and pear districts farther north, in annual sessions of a State pomological society, with exceeding interest to the members and valuable, far-reaching results to the several sections and the State at large.

Manner of Organizing.—Briefly as to the manner of organizing: I should favor an incorporated central society, with the usual officers, an executive committee to manage the business between meetings, and standing committees for interim work on such matters as typical characteristics of various fruits, new fruits, special cultural investigations, whose reports would be discussed at the general meetings, with auxiliary societies in all fruit growing districts, where there are enough of such as would take up this specific work in these localities.

I should not expect it to be a popular organization, either the main society or its branches, in the sense of securing a large membership to be entertained, but, for the most part, a working order for the purpose of serving the best permanent interests of the great fruit industry of our State, the local branches to hold their stated meetings as would best meet their several circumstances, being annually represented in the State society by delegates.

In conclusion, it has been suggested that a new organization would be superfluous in view of our clubs and institutes. I think you will readily see that these, as necessarily organized, are quite unable to take up successfully the kind of work I have tried to represent as needed, because of its continuous organized requirements. I think it would prove helpful to both by enlisting many who do not care to go over discussions of general matters, which the club and institute must continually repeat to a greater or less extent, but who would be glad to engage in organized investigations of specific fruit problems.

Besides the general intelligence, culture and enterprise in all considerable fruit growing communities, there are men thoroughly interested in the fascinating occupation, aside from commercial considerations, who will be very willing to give time and effort to the betterment of its general interests, and gladly engage in systematic effort to develop the industry along new and higher lines, which thus far has been hindered by the overshadowing influence of the commercial side. To a cultured man the best returns from the fruit farm are not in the dollars it brings, however many they be. There is a satisfying sentiment connected with it not found to similar degree in any other agricultural occupation well worthy of more cultivation. It is enlisting many men of high culture and business or professional training who are finding homes among us. Notwithstanding the high place already attained, there are possibilities for California fruit growing few have yet conceived of, and it is a laudable ambition to have to do with their development.

SHEEP AND WOOL.

The Outlook for Sheep.

We published last week the current report that buyers were contracting next year's wool clip at an advance of 2 or 3 cents over the prices they paid this year. Manifestly the manufacturers need wool, and they propose to be sure of getting it. Under the circumstances, which involve the maintenance of the tariff, to which the American people committed itself at last week's election, the outlook for sheep is perhaps better than ever before in the history of the United States. We wish our readers to know this and to include it in their plans for using land, because it is true that California has much land which should carry sheep and it promises to be profitable to use in that way. We are not satisfied that the waste lands of California should do as little as they have done recently for the State income. Therefore, we shall take occasion to talk sheep more or less unless the situation shall be generally understood.

What an Expert Says.—Mr. F. J. Hagenbarth of Salt Lake City, president of the National Live Stock Association, was recently interviewed by a writer for the Breeders' Gazette and we shall take some of the declarations which he makes public in that way. Introducing the interview, the Gazette says: "Changes verging on revolutionary are affecting the American wool and mutton industry. It is a period of transition. In the far West the business is being rapidly put on a new and more secure basis. The Middle West and the East, attracted by the lucrative nature of the trade, are 'getting back' into sheep. On the range, contraction of free grass area by a steadily rolling wave of settlement of Federal forest reserves has necessitated reduction of flocks, exclusive pastures and winter feeding. In the corn belt, farmers having tasted the profits of mutton finishing are clamoring for raw material, to discover to their consternation that the Western flockmaster is unequal to the demand; hence his determination to accept the other horn of the dilemma and resume breeding. Everywhere foundations of new native flocks are being laid. On the range, owing to attractive prices of wool, flockmasters are uncertain whether to breed on mutton lines or revert to fine wool types. It is a transition stage of one of the most important of national industries."

Wool or Mutton.—"Wool or mutton is a local problem and ought to be," said Mr. Hagenbarth. "Oregon, for instance, is essentially a wool producing State. Idaho while rapidly acquiring a reputation for the excellence of its mutton has localities, the Boise desert and the Weiser valley for instance, to which fine wool is best adapted. In these wool growing regions flockmasters believe their remoteness from market causing considerable shrinkage in transit excludes them from the mutton growing sphere, but I am of the opinion that they are wrong and that eventually they will work around to mutton. At present sheepmen generally are uncertain as to which sphere will prove the most profitable during the next few years. Present and prospective prices of wool offer an alluring inducement to use Merino rams. The most judicious policy in my opinion is a nice adjustment and proper method in management of breeding flocks with the object of getting as much wool as possible and at the same time not enough Merino blood to destroy mutton quality. To accomplish this we must breed on that class of ewe the best mutton sire money can buy. It is true that during the last twelve months there has been a pronounced tendency to go back to a wool basis owing to the high and steadily advancing price of that staple. The breeders of Merinos have enjoyed a heavy trade in rams this fall, while last year and two years ago they could not give them away. They were sold out early in the season at much higher prices than were obtainable in previous seasons. On the other hand, breeders of Lincoln and Cotswold rams report a depression in their trade. This shows a decided tendency to return to fine wool types. It is to be hoped that this will not run to an extreme.

The Merino Below.—"What the Western flockmaster ought to do is to get his ewe flock up to a fair shearing average by the use of Merino blood. Not less than eight and perhaps nine pounds of wool ought to be the average. Heavy greasy rams should be avoided. In breeding, large smooth bodies should be selected, as that class of ewe can be better herded and have more longevity. Merino ewes are hardy and cross admirably with the four standard mutton breeds. I would sell the lamb product of this cross, as we must have strong blood on the ram side—that is, full blood—to offset the Merino in the ewe. The question then arises as to how far this policy may be pursued, as in a few years, if lamb selling is continued, the flock would be exterminated. There are two remedies. One is to go to Oregon or Montana every year or second year and buy yearling or two-year-old ewes from Merino breeders who are too far from market to raise mutton ewes and sell off all the old ewes."

The Merino Above.—"The second method of maintaining the flock requires setting aside a certain number of the grower's own ewes and breeding to the proper type of Merino ram, saving the ewe lambs for a nursery herd and carrying the wether lambs over until yearlings or two-year-olds for mutton. The best type of ram for this purpose is what we might call the American Merino developed during the past five years and possessing the heavy bone and frame of the Rambouillet with the fine wool of other breeds. Our people have fallen down in the past by their lack of foresight in breeding, not realizing that good blood is required to make good sheep. They have paid heavily for their experience in using trashy sires and are rapidly becoming educated. An ordinary scrub ram costs $8 or $10 and a pure bred $20, so that the cost per lamb by using pure-bred sires is only about 30 cents the first year over the scrub, but this increase is fully paid by the increased value of the lamb. Lambs produced by full-blood sires net fully 50 cents more per head, reimbursing the breeder for his outlay the first year and leaving him with a handsome profit and a ram that cost him nothing. I have been breeding many years and I never stop at the price when a bunch of rams suits me. It is a business proposition pure and simple.

"Here is another general proposition along the same lines. A flock of 15,000 well bred ewes served by the proper rams will realize more income than 20,000 improperly bred inferior stuff. With the smaller but more profitable flock care and expense are reduced 25%, while net returns are largely increased."

East and West.—Conversing on the present evolution in sheep growing methods and trade conditions generally, Mr. Hagenbarth said: "Rapid restriction of ranges in the West presents a serious problem and one that is ripe for adjustment. Two agencies are responsible, the increased area of settlement and encroachment by homesteaders, the consequent extension of irrigation and the withdrawal of summer range by creation of forest reserves. Within the next three years range conditions must be entirely readjusted under government control. Ours is the only civilized country in the world in which present conditions exist. The existence of the range sheep industry depends on government control. It is evident that what we in the far West regard as the East is getting back into sheep breeding. The West is falling down and the East is taking it up. Michigan and Ohio are investing in breeding stock and it is a sane policy. Higher prices for both wool and mutton are assured. Australia is no longer a factor in the wool supply and present prices are obviously too low. The market abroad is advancing, and it is difficult to prognosticate next year's prices. Bids are already being made for the 1905 clip, but, as far as I can ascertain, very few of them have been accepted. Next year's price of wool will be the foreign price plus the tariff."

THE IRRIGATOR.

Irrigation in California.

By Hon. George C. Pardee, Governor of California, at the Irrigation Congress at El Paso.

There is perhaps no other State or Territory in the Union whose varied physical characteristics so well illustrate what irrigation can accomplish for the general good as does my State of California. Her hundred million of acres, extending from the latitude of Charleston on the south 769 miles north to the latitude of Boston, embrace within their limits an extent of country which varies in annual rainfall from zero to 60 and 70 inches. In those portions of her Sierra Nevada mountains where millions of acres of magnificent pines clothe their nakedness, and in those portions of her Coast Range where other millions of

acres of great redwoods tower 10 score feet toward Heaven, the snow and rainfall is ample to feed the streams running through the valleys and to furnish irrigation water for all the year. In the great valleys the rainfall varies from 20 inches to 4 or 5 inches, according to locality. But through them comes the Sacramento and the San Joaquin and a half hundred of their tributaries so that these valleys may be irrigated.

Deserts Only in Name.—The so-called deserts—the eastern parts of San Bernardino, Riverside and San Diego counties, each larger than many of the States of this Union—need only water to make them fruitful almost beyond belief. The Colorado river—the Nile of the arid West—every drop of whose water falls upon United States soil, and, therefore, belongs to the people of the United States, can be made to bring wealth and population to these apparently inhospitable wastes. Imperial, in San Diego county, five years ago a desert, now has 8000 inhabitants, and those formerly desolate acres now raise such crops as astonish even us of California. Even the Mojave desert, whose sands drift hither and yon, the sport of every passing breeze, need but the irrigating ditch to make them support a teeming population.

I have a notion that this Government could not spend money to better purpose or produce better results than by providing irrigation works in such arid places as those of the southwestern portions of the United States. And I confidently look to see the day when the national appropriations for irrigation will go hand in hand with those for navigation, rivers and harbors, fortifications, the army and the navy. While all these are necessary, irrigation is also necessary. And while they make possible our national existence and increase in population and wealth, irrigation makes them certain. Congress would, in my opinion, do nothing that would so surely add to our national prosperity as would the expenditure of large sums in irrigation works.

Development.—California stands first among the States of the Union for irrigation development. In all points denoting progress in irrigation she leads, with the single exception of the number of acres irrigated, in which she is slightly behind Colorado. She has 8000 more irrigators, however, than Colorado, and the value of her irrigated crops exceeds Colorado's by $17,000,000. While the average value of irrigated land in the United States is $42.53 per acre, in California it is $89.19. The average value per acre of irrigated crops for the arid States is $14.81. In California it is $28.47. And California has just begun. Her irrigated acres number about one and one-half millions of her one hundred millions of total acreage, and the products therefrom are valued at $32,000,000. It is estimated that in the great valley drained by the Sacramento and San Joaquin rivers and adjacent thereto—to say nothing of the entire southern one-fourth of the State and many other portions thereof—there are 12,000,000 acres capable of irrigation. So there is room yet for progress.

Local Phases.—Some portions of California are more alive to the value of irrigation than others. South of Tehachapi, in southern California, irrigation is prized as the very life blood of the country. To the north the San Joaquin valley is coming to depend more and more on irrigation as the only sure producer of crops. In the Sacramento valley the old regime still holds sway, although the awakening is near at hand. This lesson is having its results, viz: That those sections of California where irrigation is most used have had the greatest growth in wealth and population and are receiving more bountifully the good things of life.

In its natural resources of soil, climate and water supply the Sacramento valley is one of the most favored places in the United States. What has been its growth in wealth and population as compared with the slightly less favored San Joaquin and with arid southern California? In 1879 the Sacramento valley had a population of 101,993, its real property valuation was $23,513,380 and the value of its farm products was over $16,000,000. The San Joaquin valley had a population of 45,150, a real property valuation of $13,736,822 and the value of its farm products was about $9,000,000. South of Tehachapi the population was 24,248, the value of real estate $6,500,000 and the value of farm products a little over $1,000,000.

Irrigation and Prosperity.—Let us see how this advance in material prosperity coincided with an advance in the use of irrigation. As might be expected, southern California leads in the percentage of improved acreage under irrigation, with the San Joaquin valley a close second and the Sacramento valley a poor third. The number of irrigators south of Tehachapi in 1900 was 10,254, with 6634 for the San Joaquin valley and only 2788 for the Sacramento valley. What a future for the great Sacramento valley when her irrigation possibilities are realized; when, instead of less than 5% of her improved acreage under irrigation, she has nearly 25%, as in southern California; when her fertile farms will bring in a profit of over $20 per acre and the average farm is reduced from a square mile to the fifty-six acres which prevailed in 1900 in the irrigated districts of this State. It is easy to see that hundreds of thousands would be added to her population and millions to her wealth.

The communities in California that have taken up irrigation have become prosperous beyond all ordinary bounds. The communities that have neglected their opportunities for irrigation have missed a golden harvest. Take the county of Fresno, in the middle of the San Joaquin valley, once practically an arid plain. Thirty years ago the total acreage under cultivation was 24,536 acres and the total value of farm products $299,168. The same territory, which now includes Madera as well as Fresno county, in 1900 had under irrigation alone over 300,000 acres, and the total value of farm products was nearly $10,000,000. Fresno county is the largest raisin shipping center in the United States, sending out in 1903 over 600 carloads of raisins and over 1000 carloads of fruits of all kinds. The assessed valuation of property has increased ten-fold since 1879 and the population eight-fold.

This is a typical example of what irrigation has done for portions of California, and marks the possibilities ahead of other communities in our State.

Southern California.—Fresno is by no means the most spectacular example, however. South of Tehachapi a great civilization has been built up—prosperous and cultured, sprung from the desert. That beautiful land is one of the show places of America and the one classic example of the marvels of irrigation. From this southern country there were shipped in 1903 over 27,000 carloads of citrus fruits alone, 141 carloads of wine and brandy and over 3000 carloads of green vegetables. Outside of San Francisco the bank clearances of Los Angeles exceeded those of any other city west of the Rocky mountains. Here the fullest possibilities of scientific irrigation have been reached.

What stupendous things may be expected when the whole State has measured up to its possibilities in the same way. What would happen to the territory now embraced in Glenn and Colusa counties were it developed as Fresno county of southern California has been developed? These counties—once the single county of Colusa—have over 600,000 acres improved, almost as many acres as has Fresno county, and the land is at least as rich as that of Fresno county. If, instead of only 4000 acres under irrigation, these counties had 300,000 acres under irrigation, as in Fresno county, we should expect to see the value of their products reach $10,000,000, instead of $5,000,000 now produced, and to see their population more than three times what it is at present. If, instead of measuring the possible progress of these two counties by what has been done in Fresno county, we should take as the possible limit the region about Riverside, where 10,000 people live upon 13,000 irrigated acres, we should have over 200,000 people thriving upon the fertile soil of these two Sacramento valley counties.

If the 12,000,000 acres lying in and adjacent to the Sacramento and San Joaquin valleys which are capable of irrigation had water upon them, we could reasonably expect a population of 6,000,000 to 8,000,000 instead of the 300 000 we now have. We could look for yearly farm products worth over $400,000,000 instead of the $50,000,000 now produced.

At least one-third of California's 100,000,000 of acres can be irrigated. And, with her snowless winters and genial summers, these 30,000,000 of irrigable acres ought to have, and will have in the years to come, a population of at least 20,000,000 of happy, contented and prosperous people.

President Roosevelt on Irrigation.

A letter by President Roosevelt addressed to the Irrigation Congress.

To the National Irrigation Congress: It is a pleasure to send my greeting to you, both as President of the United States and as a man who has lived in the West and is eager for its prosperity. Whatever any man or body of men believe as to any question in political controversy, we may unite in the great duty of making every foot of soil, every stream and every other resource of natural or human origin contribute to the very utmost to the permanent prosperity of our country.

Congratulation.—"I congratulate you because you are no longer striving for what once seemed a distant hope; you are no longer engaged in a campaign of education for the passage of a reclamation Act. On the contrary, your first great object is achieved. You have yet to consider what has been done and what is being done under that Act by the reclamation service, to consider means to give it its largest and widest results and to discuss the broad problems of irrigation methods and practices.

"It was through your efforts and men like you that the people of the United States, as a nation, undertook to attack the desert and to do away with it, not only so far as there is water, but to the fullest extent which water may be developed hereafter. Such an attack can be successful only when based on accurate knowledge. When the Reclamation Act was passed the essential facts as to stream flow had been ascertained in many parts of the United States and the scientific basis for a national reclamation, which otherwise would have taken years to accumulate, was already in a large part at hand.

Safe Development.—"The fact that so much progress has already been made by the reclamation service is a striking example of the advantage of scientific investigation by the general Government. It may be true that, to the man whose interest is limited by immediate results, the admirable work of the reclamation service at times seems slow, but we are building for a great future, and it is far more important that the works built should be permanent and successful than that they should be completed in haste. There will be no unwise hurry; neither will there be any unnecessary delay. Most of the great problems of organization and methods have now been solved and progress in construction and settlement is being made with increasing rapidity.

Men Who Stay.—"The passage of the reclamation law was a great step toward realizing the best use is to produce water for irrigation. But always and in every place the best use of public lands is their use by the man who has come to stay. There are unfortunately in every part of our country a few men whose interests are purely temporary, who are eager to skim the cream and go, instead of using the forests conservatively. They would, for example, abuse and destroy the natural reservoirs upon which national irrigation depends, to the permanent loss of every agency which makes for the true development and lasting greatness of the irrigable States. Such interests cannot be allowed to control.

The Forests.—"Now that your first great object has been accomplished in the passage of the reclamation law you should make yourselves the guardians of the future and the unrelenting and watchful enemies of every attempt to waste any of the great resources in the forestry, grazing and mineral wealth, the foundation stones of the newer and greater West. For irrigation and every other interest which you represent, the period of exclusiveness is past. The stock interests are no longer independent of the mining interests, nor either of them independent of the irrigator. A closer interweaving than ever before is at hand among all the great interests of the whole country. One cannot prosper without the other. To the future growth and greatness of the other Western interests we depend in the first degree upon the development of irrigation and the development of irrigation will depend upon the protection and wise use of the existing forests, and the creation of new ones and the proper control of the grazing. Your work for the good of one interest is for the good of all."

State Fruit Growers' Convention.

The thirtieth State convention of California Fruit Growers will be held at the Unitarian Church, San Jose, December 6th, 7th, 8th and 9th prox., under the auspices of the State Horticultural Commission. The following is the programme:

Tuesday, December 6th, 9:30 A. M.—Address of welcome, Mayor George D. Worswick; address, Governor Pardee; opening address, President Ellwood Cooper; report of secretary and appointment of committees.

Tuesday afternoon, 1:30.—"The Theory of Selective Breeding," Prof. David Starr Jordan; "Cross Pollenization in the Culture of Apples," A. N. Judd; "Needed Legislation," Frank E. Kellogg; "Agriculture in the Public Schools," John S. Dore; "The Fruit Grower and the Parcels Post," Edward Berwick.

Tuesday evening, reception by Ladies' Club.

Wednesday, 9:30.—Transportation and Marketing. Report of California Fruit Distributors, Hon. Alden Anderson, manager; report of committee on transportation, R. D. Stephens, chairman; "Fruit Transportation," Paul Shoup; "Cured Fruit Marketing at Home and Abroad," F. W. Crandall; "Widening Our Fresh Fruit Market," Hon. Alden Anderson; "The Grower-Packer and His Vicissitudes," W. P. Lyon.

Wednesday Afternoon, 1:30.—Co-operation. Report of committee of fifteen, A. R. Sprague, chairman; "The Benefits of Organization," F. H. Babb; "Why Farmers Should Support the Growers' Co-operative Agency," A. T. J. Reynolds; "Agricultural Organization," A. R. Sprague; "Stumbling Blocks in the Way of Co-operation," C. D. Harvey.

Thursday, 9:30 A. M.—Insect Control. "Pear Blight in Northern California," Prof. Ralph E. Smith; "Aphids Attacking the Apple," Prof. W. T. Clarke; "The Problem of Insect Control," C. A. Day; "Observations on Phylloxera," O. E. Bremner; "Thrips," Dudley Moulton.

Thursday afternoon, excursions.

Thursday Evening.—Session of County Horticultural Commissioners. "Inspection of Nursery Stock from a Nurseryman's Standpoint," George C. Roeding; "The Entomological Equipment of the Horticultural Commissioner," Prof. C. W. Woodworth; "The Quarantine Division of the State Commission of Horticulture." E. K. Carnes; "The Work of the County Horticultural Commissioner," A. D. Bishop.

Friday, 9:30.—Wine and Raisins. "Wine and the Growing of Wine Grapes from the Producer's Standpoint," W. J. Hotchkiss; "Native Wines and Their Future," Percy T. Morgan; "What the Bureau of Plant Industry is Doing for the Fruit Grower," Prof. P. H. Dorsett; "Condition and Outlook of the Apple in Lassen County," F. J. Winchel; address, Judge B. G. Hurlburt.

Friday Afternoon.—Report of committee on labor, H. P. Stabler, chairman; "Advertising California's Cured Fruit Products," E. M. Swasey; "Increasing the Demand for California's Cured Fruit Products by Advertising," H. P. Stabler; "Best Methods of Advertising California Fruits," E. W. Hazen.

Agricultural Review.

Colusa.

SUCCESSFUL CREAMERY.—Sun: During the month of October there was received at the Colusa creamery 29,715 pounds of cream, which produced on the Babcock test 12,762.66 pounds of butter, allowing 15% for overrun, which makes 1914.21 pounds, which added to the butter made on test makes a total of 14,766.87 pounds of butter at 26 cents per pound, yielding $3815.72. The company charges against their patrons for making the butter at 2 cents per pound was $293.08. Adding for stage charges for bringing cream to creamery $58.36, making $351.44, leaving a net amount paid to patrons for cream received during the month of $3464.28. The largest amount of cream received from one person was 2372 pounds, and the smallest amount from one person was thirty-nine pounds.

Fresno.

MELON YIELD.—Sanger Herald: The remarkable record of 109 pie melons from a single vine on John T. Walton's ranch, mentioned in these columns last week, has been beaten by his neighbor, R. J. Paden, who gathered 117 melons from a vine grown from volunteer seed. These melons filled a wagon bed and were as much as two horses could haul at a load.

ORANGE SPECIAL.—In order to move the orange crop expeditiously, two extra trains have been put on this division, one bringing in empties and the other taking away the loaded cars along the line between Fresno and Porterville. It is estimated that the average daily output of all the packing houses on this division is fifty carloads of 362 boxes each, or 18,100 boxes, worth probably $1 a box on an average. The orange crop of Tulare county this year is estimated a 1500 carloads. while Fresno county will probably ship not more than one-tenth that many.

Glenn.

RIPE DATES.—Colusa Sun: The Marysville Democrat speaks of ripe bananas being gathered from the yard of J. Cohn in Marysville last week. These are the first bananas that have ever ripened in northern California. Willows can now boast of ripe dates, for they can now be found on the trees in the yard of J. M. Silvey and also Henry McMath.

SENATOR DIGGS SELLS RANCH.—Colusa Special to Sacramento Bee: Saturday last J. B. DeJarnett & Son closed a sale of the old Burroughs ranch, near Butte City, for $40,000. The property belonged to Senator Marshal Diggs of Marysville, and was sold to Horace S. Goodman, a capitalist and wholesale hardware dealer of Illinois. This splendid property will be turned into a stock and fruit ranch.

Kings.

SECOND CROP. — Hanford Sentinel: John Rea came in to-day and brought some June apples grown as a second crop on G. V. Crawford's orchard trees. The trees of Kings county are as industrious as the season, and those June apples got out for the second time during the year. They are of good size and well developed.

A SYSTEMATIC BEEKEEPER.—Western Bee Journal: Henry Heidorn, near Hanford, keeps a record book, in which he keeps a record of every queen he has in his five apiaries. A little while ago he showed us this record book, and we confess we never thought that it would be so easy a thing to do this. By this method Mr. Heidorn knows just how long to keep his queens to get the best work out of them. He never keeps a queen longer than three years. Where queens are crowded as they are in an apiary, three years about uses them up, he says. Vitality is a great point with Mr. Heidorn. By keeping the vitality of the bees and the queen at the highest point it is possible to keep out of an apiary all diseases such as foul brood, pickled brood, etc. He contends that as a diseased body will take on disease more readily than a healthy one, so a colony that is weak and has no vitality is subject to disease, and will develop disease, where a strong, healthy, vigorous colony goes right along with no trouble.

Lake

TURKEY PICKERS STRIKE.—Lakeport Bee: Mr. Brice, a turkey buyer, occupies the large barn near the flour mill, where he has erected coops and facilities for picking and packing turkeys. This morning his pickers ceased work and sat down, each one lighting a cigarette, although there were plenty of turkeys unpicked. The boss upon inquiry found that the pickers demanded 8⅛ cents per head for picking instead of 6¼ cents, the amount they had been receiving. The strikers won.

Placer.

NEWCASTLE ORANGES.—Auburn Republican, Nov. 17: The Newcastle orange crop is going through the graders as rapidly as they can be hauled to town and cars are being loaded for Eastern shipment with all available dispatch. Present shipments are designed to reach destination in time for the Thanksgiving trade and also in time to catch the good prices of the early markets. The fruit is bright and clean and as pretty as any oranges can be. It is also sweet and fine flavored. The crop is good and the market conditions look very favorable.

Sacramento.

FAMOUS VINEYARD SOLD.—It is reported that the famous Natoma vineyard near Folsom has been sold to the Guggenheims of New York. This vineyard, known as the largest in the State, embraces 4000 acres of land. For some time it has been attracting the attention of mining men, experts having declared it to be the best dredging proposition in the State, the ground being rich in gold. The property was owned by C. W. Howard, who bonded it to R. G. Hanford. The purchase price said to have been agreed upon by Mr. Hanford and the Guggenheims is $2,000,000, which is at the rate of $500 per acre.

San Joaquin

TO GROW FLAX.— Lodi special to Sacramento Bee: A number of farmers of this county have formed an organization for the purpose of experimenting with flax growing in San Joaquin, and a number of seedings will be started to test the truth of the assertion made by an expert that any part of the county would raise the stuff in a profitable way.

Santa Barbara.

RUSHED BY STEERS.—Press: Charged upon by a herd of a thousand wild steers, Mr. and Mrs. G. E. Bailey of San Francisco narrowly escaped death while riding in an automobile through a canyon in the northern part of this county. While rounding a turn in a narrow gorge, the road not 15 feet wide, and a sheer drop of several hundred feet to the bottom, they met the herd.

Santa Clara.

FRUIT CURIOSITY.—San Jose Mercury: A branch of a pear tree full of blossoms, yet heavy with both green and ripe fruit, has been brought to the office. A group of a dozen pear trees on the Mountain View-Saratoga road, south of Prospect road, are the trees from which the sample was taken. The branches are white with blossoms and heavy with unpicked fruit. This is a curious circumstance owing to the time of the year being so advanced as to be late for fruit, and yet too early for budding.

Santa Cruz.

QUAIL AND RABBITS DYING OF STARVATION.—San Jose Herald: Owing to the destruction of their food, such as grasses, berries and the like, by the terrific fires that swept the country during the summer, quail and rabbits at Boulder creek and in the Big Basin and State park are dying of starvation. Realizing the desperate plight of the game, the Boulder Creek Fish and Game Protective Association has established feeding grounds, where daily large quantities of wheat and corn are scattered in localities the game frequent. Hundreds of quail have taken up their roosts in the brush near the feeding grounds, so that now it has become necessary for the club members to watch them closely to prevent them being shot. It is no uncommon sight to see the ground black with them while the feeder sits on the fence and watches, so tame has hunger made them.

PRICE OF BEETS.—Watsonville Pajaronian: A rumor which was circulated here to the effect that the Spreckels Sugar Company intends to pay $4.50 a ton for beets delivered in the yard at this place is without foundation in fact. E. W. Card states this morning that the price for beets for the coming year will be $4.50 a ton delivered at Spreckels, the same as for this year's crop.

Shasta.

POTATOES. — Redding Free Press: Away up in the Fall River country, in Cayton valley, to be more exact, John Snell has a good-sized potato patch from which some record-breaking spuds are being dug. Mr. Snell has not paid any particular attention to the culture of potatoes. His original intention was to raise enough for his own family use, and he was not quite sure that he could do that. People told him he couldn't raise even an umbrella on his land. Snell has proven, however, that most anything can be grown on Fall River soil. He has dug out this year potatoes that weigh 8¾ pounds each. There are many of them—great big, Irish tubers, each of which is a week's supply for the ordinary potato eater. Mr. Snell also says that he takes out thirty pounds of potatoes from one hill.

Siskiyou.

IRRIGATION IN NORTHERN CALIFORNIA.—A Washington dispatch says: One of the biggest irrigation projects yet undertaken by the Government is now under consideration by the Interior Department, and will be investigated personally by F. H. Newell of the Geological Survey, within the next few days. This is the Klamath project in northern California and southern Oregon, on the border line between the two States, but lying mostly in California. Water for irrigation will be taken from the Klamath river and lakes, and if the project is finally decided upon as being feasible about 300,000 acres will be put under irrigation.

Solano.

CELERY.—Rio Vista News: The experiments made with celery on Jersey island during the past two years have proved very satisfactory and the raisers are expecting large crops this year. The Santa Fe shipped several cars to the East last season, where their superior quality brought good returns.

Sonoma.

FINE CORN. — Healdsburg Tribune: Frank Goddard has favored this office with a couple of stalks of fine corn, grown on his place down the river. One of the stalks supports six full ears and the other bears two. They were grown from seed taken from two-ear stalks, and by using the six-ear seed next year Mr. Goddard hopes to still further increase his corn yield.

HURT BY FRISKY COW.—Santa Rosa Republican: I. L. Brock met with a serious accident recently. Mr. Brock was leading a cow about the premises, when the animal began cavorting playfully. Mr. Brock attempted to quiet her, but was unsuccessful in doing so. Finally the cow managed to entangle Mr. Brock's feet in the rope with which she was being held. In this predicament Mr. Brock was thrown heavily to the ground, and in the fall sustained a fracture of the right hip and a number of severe bruises. Mr. Brock is over seventy years of age.

CHICKEN HORSE LOST. — Petaluma Argus: The steamer Gold brought a big band of chicken horses from San Francisco Tuesday. While the horses were being placed on board the steamer at San Francisco one of the animals fell overboard and was drowned.

LEASE OF FAIR ESTATE.—Santa Rosa Press-Democrat: A portion of the Fair ranch in this county, 3,689.79 acres at Lakeville, has been leased by Mrs. Virginia Vanderbilt and Mrs. Theresa A. Oelrichs to I. Sartori for $32,285.70 per year, payable in semi-annual installments. The lease is for five years and the lessors are not to be called upon for any improvements, and a boat and railway landing is retained. The lease may be terminated after the third year, if the land is sold, by giving a year's notice.

Stanislaus.

TO IMPROVE HIS HERD. — Modesto News: M. Brezee purchased in Fresno a herd of ten very fine full-blooded dairy heifers, two of which are half sisters to the famous Juliana de Kol, now at the World's Fair. The cows come from the Minnewawa stock farm at Fresno, and it is stated that Mr. Brezee had to pay a very fancy price for the animals. Brezee & Weyer, the owners of the old Underwood ranch on the Waterford road, expect to make great improvement in their dairy herd and to eventually have one of the finest herds in the county. They will dispose of the cows they now have that are not of high grade and pure blood and will raise nothing but fine dairy animals. The heifers are full blooded Holsteins.

ORANGES, OLIVES, ETC.—Modesto Herald: Mr. Kahn and his former partner, J. Haslatcher, were pioneers in orange, olive, lemon and nut culture at Oakdale, planting an aggregate of about 100 acres. The orange crop this season is an excellent one; the lemon crop is equally good; the almonds made a fine yield, and the olives are bringing $50 to $60 per ton, and some of the trees are producing as much as 500 to 600 pounds. Half a cent a pound pays for picking.

Sutter.

SHIPPING HONEY.—Yuba City Farmer: J. D. Baker, the well-known beeman of west Butte, is shipping his crop of honey to Chicago. It is strained and packed in cases, 120 pounds to the case. There are 220 cases, making about thirteen tons. The price received is, we understand, 4c per pound.

PERSIMMONS. — Yuba City Independent: W. P. Harkey brought in a box of delicious persimmons grown on trees planted ten years ago in his door yard. The fruit is an Illinois variety and grown from the seed. The trees this year are very full of the fruit which is very large and sweet and unlike other Eastern persimmons, require no frost to ripen them.

Tehama.

FRUIT TREES MAKE WAY FOR HOP VINES.—Red Bluff special to Sacramento Bee: Col. E. W. Runyon has sold the greater portion of the Butler place in the southern part of the county, including the fine orchard of 200 acres, to a purchaser who is at present unknown, for the purpose of changing the lands into hop fields. The Chinese tenants who have had the property on lease at high rentals have made considerable money during the past few years. The raising of fruit has been profitable. Some years ago Colonel Runyon sold a fine orchard adjoining this property to W. E. Gerber, the Sacramento banker, who pulled out the trees and sowed the land to alfalfa, making one of the finest cattle farms in the State.

GOOD ORCHARDS.—Red Bluff Cause: William Gurnsey has an orchard of twenty-five acres of Muir peaches. He sold the crop this year for over $1200. After paying all expenses his net profit was $600. The 100-acre Bartlett pear orchard on the Cone place this season produced 900 tons of fruit. This fruit sold at $30 per ton, or $27,000 for the entire crop It is estimated that the cost of caring for the orchard and picking the crop was not over $7000. James Feeley shipped three carloads to the East. The returns showed that he received $6368 for the three carloads, or over $2100 per car.

RAISES FINE PERSIMMONS.—Red Bluff News: George M. Stoll has a fine persimmon tree on his home place on Reeds creek which he planted with his own hands twenty-three years ago, and on which he has a crop this year of more than one thousand of the luscious fruit.

Tulare.

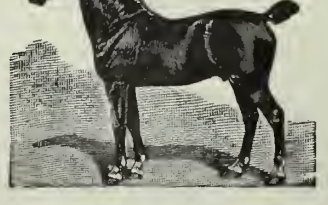
BIG CLAIMS FOR PENCILARIA.—Messenger: A. D. Carpenter of Porterville says that, after reading a good deal about pencilaria, he bought a trial package of the seed that was claimed to be enough for a row 100 feet long. Not having a suitable place for the pencilaria, he conceived the idea of planting it in a row with his fodder corn. This was done, and today the pencilaria stands 15 feet high and is still growing. The peculiarity of the new plant is its branching qualities, one stalk making it almost impossible for anything else to grow with it, even weeds taking a back seat. It can be harvested several times during the season, and Mr. Carpenter believes it will go ninety-five tons of green fodder to the acre, as is claimed for it.

Ventura.

LIMA BEAN CROP.—M. L. Wolf of Oxnard has compiled a statement as to the exact output of Lima beans for Ventura county for this season. The total crop is 337,525 sacks, while his estimate for other beans raised in Ventura county is 50,000 sacks, making a total production of all kinds of about 387,525 sacks.

Yuba.

BANANAS AT WHEATLAND.—E. E. Roddan has growing in his yard in Wheatland a banana tree which is bearing fruit. Upon the tree there is a stem with one dozen fair-sized bananas, some of which have just begun to show the yellow tint. The tree is a sprout taken from another tree and transplanted by Wm. Lumbard and Uncle Hugh Roddan.



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CAUSTIC BALSAM

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Curb, Splint, Sweeny, Capped Hock, Strained Tendons, Founder, Wind Puffs, and all lameness from Spavin, Ringbone and other bony tumors. Cures all skin diseases or Parasites, Thrush, Diphtheria. Removes all Bunches from Horses or Cattle.

As a HUMAN REMEDY for Rheumatism, Sprains, Sore Throat, etc., it is invaluable.

Every bottle of Caustic Balsam sold is Warranted to give satisfaction. Price $1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars, testimonials, etc. Address

THE LAWRENCE-WILLIAMS COMPANY, Cleveland, Ohio.

The Home Circle.

You All Know Him.

He's quite a well-intentioned man—but, oh! it's a sin
The way that he's addicted to the vice of butting in.
He makes himself more trouble and plagues other folks as well.
The scrapes it's brought him into it would take too long to tell.
He never minds his business, has no time to attend
To that and other people's, and he would not slight a friend.
He's proof against a snubbing, it's no earthly use to try
To make him keep his finger from the other fellow's pie.

He's trying to be helpful, you are confident of that.
He thinks that his suggestions are invariably pat.
He'll show you how to do things in the way they should be done;
He'll give you his opinions on all things beneath the sun.
Wherever people gather for discussion, though it be
Of strictly private matters, you can never make him see
By voice or tone or manner any earthly reason why
He shouldn't have a finger in their confidential pie.

And innocent about it! That's the trouble, don't you know.
Your hints are always wasted, so one hasn't any show.
I've mentioned that he never can quite comprehend a snub,
A kick would be too brutal and one can not use a club.
And so we bear his poking and his prying as we can,
Because we know there is really no harm about the man.
But, oh, he's a trial! And we're all constrained to sigh
When he comes near us eager for a finger in the pie. —Chicago News.

The Heart That Beat for Gold.

Beatrice Flake swept across the magnificent ballroom of her father's Fifth avenue mansion, a beautiful picture in white. There was hardly one among the two hundred couples that did not turn and watch her in admiration.

As she strolled proudly toward the little cluster of dancers in which Richard Cameron was standing her handkerchief fluttered to the floor almost at his feet.

Cameron picked up the bit of lace and gave it back into the small, white gloved hand from which it slipped. In return for his courtesy he received a smile, a bow and a musical "Thank you."

If Cameron had been a young man of wealth and position the bow might have been the thousandth part of an inch lower, and the smile a trifle sweeter, and the "Thank you" perhaps would have sparkled with more of the sunshine in its silver melody. But Cameron was only a poor clerk of her father's, with a salary of nine hundred a year, and no personal possessions in the world beyond a handsome face, fine, rugged figure, and a widowed mother, the latter item to be supported out of his nine hundred. Miss Flake conducted herself accordingly.

Cameron walked leisurely up the floor with Miss Beatrice's younger sister upon his arm. Miss Flake let her great, black eyes follow him admiringly for a moment. If his salary had not been but nine hundred dollars she could not have helped admiring his strong face and sturdy, military bearing. After a short glance she turned her eyes back, half languidly, half disdainfully, to the expressionless countenance of Theodore Strong, who had just come alongside of her.

Strong was a young man who had a habit of saying and doing all manner of soft things to please the women. He was the owner of a pair of weak eyes, a pale yellow mustache, the reputation of a man about town and an expectation of a cool half million in his own right when the paternal Strong finally went the way of all rich men.

Miss Flake again conducted herself accordingly.

"A fine looking fellow, that Mr. Cameron—don't yon think so, Mr. Strong?" she asked, arching her pretty brows.

"Passable," replied the young man, lifting an eyeglass and scrutinizing Cameron through it with one of those long, aristocratic stares so much affected by those who would appear to be high born. "But who is he?"

Strong was not asking for information. He knew. The question, taken in connection with the inquiring lift of the eyelids, and the slightly severe tone in which it was put. was intended to indicate, in a delicate way, the great difference between nine hundred dollars annually, with a widowed mother to be supported, and an inheritance of half a million, with only a six foot mahogany coffin between him and its possession.

Miss Flake understood and appreciated, and again acted accordingly.

"Oh, he's nobody to be sure! But father has some very queer notions, and insists upon our asking him to all our parties, as much as though he were a young lord."

Young Cameron during this conversation had made the round of the ballroom and was again approaching the place where he had been picked to pieces only a few seconds before. With Miss Mabel he presented a very striking picture.

There couldn't have been a greater contrast had some little roseate morning cloud taken it into its head to run away with the midnight than there was between this couple. Cameron, with his tall, proud figure, in his well worn evening clothes, his dark, manly face and piercing black eyes, and Mabel—slight, sylphlike, sunshiny, in her robe of white lace, with her violet eyes, rose-tinted cheeks and soft curls floating to her waist like a golden mist.

They looked well together and Beatrice angrily bit a line of milky little teeth into the rose of her under lip on seeing them still in each other's company. She had been thinking for the past few minutes what a nice subject Cameron would be for a flirtation. She was tired of the yellow mustache, weak eyes and stupid gallantries of her insipid Theodore, and though she in time intended to become Mrs. Strong, with half a million dollars to play with, unless some suitor with an extra hundred thousand or two happened along, she couldn't see why for that reason she should not succeed in breaking the heart of her father's handsome clerk in the meantime. He was just the one to coquette with. It would be so delightful to entangle him heart and soul in the silken snare of her witcheries and arts and then slay him, not as Lady Clara Vere de Vere was supposed to slay her humble suitor, "with her noble birth," (for Beatrice's grandfather had been a butcher and her father himself commenced life at the very foot of the social ladder), but to knock him down dead with her father's fine mansion and her own frigid air of Fifth avenue contempt.

As Cameron was passing with the fair Mabel, Beatrice, by a careless motion of her hand, managed to let her jeweled fan fall to the floor almost directly in front of the couple. Cameron disengaged his arm from that of his companion and restored the lost treasure.

Strong turned his head for fear of an introduction. He missed the attempt at fascination in the beaming glance with which Beatrice's superb eyes acknowledged the politeness.

Of course, too, Cameron failed to be aware of any art in the way the charming Beatrice managed to engage him in sentimental conversation, or the coquettish maneuver by which she led him along in the promenade, with her sister a clinging substitute following with the insipid Theodore.

Perhaps, however, he noticed the little shadow of disappointment which flitted over Mabel's face as the evening drew to a close, and he found no chance to speak to her again. How could she know that it was not his inclination, but Miss Beatrice, that held him captive.

After the ball was over Beatrice, lounging in her room just before retiring, was remarking with a wearisome yawn which stretched her little rose of a mouth to a width that would have shocked the delicate and fastidious Theodore, that "that Cameron is a presuming fellow, and came near making love to me. I will take him down a little, if I die for it. I do wish Mr. Strong would dye his mustache."

Mabel, listening with burning cheeks, snuggled her golden head down deeper into the great downy pillows and let the embroidered sleeve of her night robe fall across her face in such a way as to conceal the suspicious glitter of something very like to tears on her silken lashes.

* * * * * *

Fortune is a woman for fickleness. She likes to make men woo her ardently and long, and then when they think her won, and begin to bask in the glory of her smiles, to slip like a sunbeam from their embrace, and, coquette like, fling herself into the arms of some disheartened suitor for whom she has had only rebuffs and scorn before.

Many a rich man goes to bed at night mumbling golden vagaries of speculation when he should be saying his prayers. Many a disconsolate beggar crawls to his pallet of straw to live over in his dreams the bitterness of want, and wakens to find the coffers of some dead millionaire emptied at his feet, and the same hands that denied him alms yesterday stretched out in the fawning clasp of good-fellowship today.

Richard Cameron went to the postoffice one morning and got a letter—a very important looking document. It was thick, awkward, and with a foreign postmark. He had only two correspondents in the world, his mother and a cousin. He turned the strange epistle over two or three times, wondering where and whom it could be from.

He broke the seal in the street; read a few lines and turned white, a few more and turned red and then started on a run down the street.

In a few minutes he was standing in the counting-room of John Flake & Co., panting, flushing and trembling—trying to stammer something about giving up his situation — two hundred thousand—East—aunt— Indies — dead.

When the excited young man repeated his intention of giving up his clerkship and entering into business for himself, Mr. Flake demurred, hesitated a moment, slapped him on the shoulder, called him a capital fellow, and offered to take him into partnership.

"On one condition," stoutly declared Cameron.

"What is it?"

"That you allow me to enter two partnerships at once—one mercantile, the other matrimonial—one with yourself, the other with your daughter."

"You mean Beatrice, of course?"

"No, Mabel."

"But I can't spare Mabel. She is nothing but a child. Beatrice is just the right age to marry—and, besides, besides——"

Flake stammered here. He did not like to say that Beatrice was creeping along in age and that he was anxious to get her married off. He scratched his head and looked puzzled.

"I believed Mabel is engaged to a young lawyer," he said. "You needn't look so crestfallen. Beatrice isn't engaged. She certainly is the handsomer of the two and would make the better wife, I think."

"Oh, but Beatrice wouldn't marry me."

"Try her and see"

"May I have Mabel if Beatrice will not marry me?"

"Yes."

"And you won't say a word to either of the girls about my inheritance?"

"No—no."

Flake wanted Cameron to wait until after the dinner hour. Cameron did not have time for that. He started toward the Flake home immediately.

Old Flake, looking after him making across the street, rubbed his chin in a disconcerted way and muttered:

"What a deuce of a hurry the boy is in. The girl will refuse him as sure as the world—and I wouldn't wonder if the both of them did. If he hadn't only made me promise not to say anything about his fortune!"

He stood with a little vexed shadow on his face for a moment. Then another bright idea was born in his brain.

"But I didn't promise not to write."

He went to his desk, dashed off a few lines on paper and called his boy.

"Run up to the house, and give that to Miss Flake. You see that man—Cameron—going across the street? If you do not get there before he does I'll discharge you."

The boy ran out and nearly gave his employer a stroke of paralysis by jumping into a cab and speeding up the street.

* * * * * *

Beatrice Flake's hour of triumph had come. Cameron had arrived and asked for a private interveiw with her. Of course she knew what he would say. She wouldn't be afraid to wager anything from her new gold bracelets to her set of ermines that he had come to offer himself. Wouldn't she wither him with her disdain? Wouldn't it be great fun to see him cringe? She drew her head up and blazened her eyes experimentally before the mirror to see how she would look refusing him. She wished he had Strong's expectations, or Strong had his appearance.

A maid handed her a note just as she was ready to descend to the parlor. She glanced at it, saw that it was in her father's handwriting, and laid it aside, thinking that she would have time to read it after a while.

She swept down the stairs and into the richly furnished drawing-room like a princess.

It was just as she had expected. Cameron made her an offer of his heart, his hand and fortune, couching his proposal in words rather cold. The "fortune" seemed like irony to the girl, and she smiled as it was spoken. It wasn't what she had expected of such a man—not half ardent enough. She swallowed her chagrin, however, and gave her head two or three extra tosses out of sheer spite.

Cameron fidgeted uneasily in his chair during the moment of silence that followed. He began to be afraid that he would be accepted. Then he stubbornly made up his mind that he would not marry her at any cost. If he could not have Mabel he did not want anyone.

Beatrice's first words put him at rest.

"Sir, is it possible you have misunderstood my condescension in this way? You are very presumptuous. My father shall hear of this. Shall I call the butler to show you the door?"

"Don't trouble yourself, Miss Flake, it was your father's wish and not mine that brought me here. If I had not been sure what your answer would have been I should never have come. If you please I should like to speak to Mabel."

With blazing face, the baffled coquette left her unscathed victim and ran up to her room to drown in a flood of angry tears her shame, mortification and wonder. She didn't know what to make of her visitor, but of one thing she was certain—that she had burned her own fingers instead of his.

An hour later, Mabel, stealing in, blushing and happy, to tell of her betrothal to Richard Cameron, found Beatrice just tearing open her father's note, and going up beside her, leaned over her shoulder. The two sisters read together:

"Beatrice—If Cameron offers himself, accept. He's come into possession of a splendid fortune. I've no time to explain. I shall take him into partnership next week. Be sure and accept him. 'Tis the best match in the city. "FATHER.

"P. S.—Old Strong has failed."

For Health and Comfort.

Now is the time to improve your habits.

Eat nothing that you know will hurt you.

Never eat more than can be easily and properly digested.

Fasting for one day will often prevent a serious illness.

More people suffer from eating too much than too little.

Fruit should be a large portion of one's breakfast.

Hardwood floors and rugs are better

than carpets on floors of sleeping apartments.

You can often help a nervous headache by brushing the hair gently.

If inclined to be nervous study to master yourself and exercise self-control.

It is well to have several pairs of shoes and never wear the same pair more than one day at a time, and, if damp, a two or three days' rest will be better for the feet and shoes.

If you feel too tired to work, stop work. It is never safe or prudent to go beyond one's strength.

Do not be afraid of night air; fresh air is better than stale air.

In the use of iced drinks or foods remember that it must be warmed to blood heat before it can enter into the circulation to be digested.

Women should take five minutes a day from work and lie flat on the back, all muscles relaxed, with eyes closed. This will be found a wonderful preserver of health, beauty and strength.

In shopping avoid the crowded basements or stores where "bargain hunters" congregate. It is better to pay a few pennies more than to breathe the bad air of these pestholes.

Domestic Hints.

Broiled Egg Plant.—Peel the egg plant and cut it into slices half an inch thick. Dip each slice into oil, then sprinkle with salt and pepper and broil. Or if preferred, it may be dipped in melted butter instead of the oil. In serving pour over them just a little bit of melted butter and lemon juice, hot, in which cayenne figures prominently.

Ginger Crisps.—Take two cups best molasses, one cup dark brown sugar, one cup shortening, butter preferred. Boil these ingredients ten minutes; add, while hot, four teaspoonfuls soda, two teaspoonfuls ground ginger (one-half spoonful salt if butter is not used), stir well. Add flour to roll very thin. Bake quickly. Keep closely covered if you wish them to retain their crispness.

A Cheap Roast.—There is a cheap cut of beef which butchers generally call the tenderloin "skirt," which makes a very fair oven roast, provided it is done in a double pan and kept well moistened by basting. Paprika and salt form the simple seasoning, together with chopped onions. When the meat is nearly done, raise it on a wire standard and put both sweet and white potatoes, which have been parboiled, to finish roasting in the gravy. Use these to decorate the meat as it goes to the table, serving gravy separately in tureen.

Baked Chocolate Pudding.—Break up half a cake of sweet chocolate, and boil in one quart of milk. Pour this over one cupful of breadcrumbs. Beat two eggs with one cupful of light brown sugar, and add to the chocolate and breadcrumbs. Season with vanilla. Bake in a buttered dish, and serve with hard sauce. Sauce for the pudding: Beat to a cream one cupful of sugar with one-half cupful of butter; add the whites of two eggs beaten stiff, and flavor with grated nutmeg and a little orange juice. Set it on ice until wanted.

Virginia Mixed Pickles.—Seventy-five good size cucumbers, half a peck of green tomatoes, fifteen large white onions, one quart of small onions, four heads of cabbage, one pint of grated horse radish, half pound of mustard seed, half a teacup of ground pepper half a pint of salad oil, one ounce of celery seed, one ounce of cinnamon, and two ounces of turmeric. Slice the tomatoes and large onions, chop the cabbage, quarter the cucumbers, and add the small onions whole. Mix with salt, let stand twenty-four hours, drain, and pour on vinegar. Let stand a day or two, strain again as dry as possible; mix the spices well, then boil one and one-half gallons of fresh vinegar, and pour boiling hot over the pickles; do this three mornings. The third time add one pound of sugar to the vinegar, also mix the oil in with it.

Japanese Wives and Mothers.

Many and grievous were the restrictions in olden times laid upon a Japanese girl of the middle or upper class. Her husband practically chosen for her, she entered upon her new life without any of the illusions of a love match. She was determined to be faithful and submissive, to bring up her children well and to serve her lord truly all the days of her life, waiting on him at table, attentive to his slightest behest. Very constant seclusion was her duty, says the Guardian, and, if necessary business called her outside her home, she must not go unattended, and never on foot.

To visitors she was a mere shadow, appearing possibly with gracious service now and again, never speaking, nor spoken to, nor spoken of. Friends of her own sex she saw sometimes on formal occasions; but of any spontaneous individual life she knew next to nothing. Even with her children she must preserve her dignity, her aloofness, her impassive self-control; no caress, no demonstration of affection was permissible.

In the poorer strata of society, matters were perforce different; the woman shared, as she does to-day, the toil of the man, even in its hardest and roughest shapes. She carries brushwood over the mountains, gathers seaweed on the seashore, works in the rice fields, even acts as coolie to the foreigner, and with all this does the household duties also. Bent and worn and wrinkled before her time, with shaven head and shortened sleeves, her back doubled by many burdens, the Japanese woman of the lowest class is a pathetic figure, unlovely in her old age, and without hope for the future.

Living as I did for many months with a Japanese family, there were frequent opportunities of discussing matters intimately and for seeing for myself details that are unperceived by the casual traveler or even the resident foreigner. My hostess was a charming type of Japanese civilization at its best. Belonging to one of the oldest and richest families of the empire, she embodied all that is most admirable in its life, while yet ready and eager to adopt all that is good in ours. Soft voiced, gentle and dignified, her thoughtfulness and hospitality surpassed any I have met with elsewhere, while her courtesy was perfect.

She dressed always in the most exquisitely tinted gowns of native fashion—soft grays and blues and heliotropes, with inner kimono of white, a single jewel at her girdle clasp. Yet she wisely adopted foreign dress for her boys and the youngest girl, reserving the gorgeous kimono of softest silks for the elder one, who is the ideal of a Japanese maiden, with the added culture of European training. She is to come to England some day; when "she is quite Japanese perfect in heart," her mother said to me. "But she must marry before she is twenty-five; this is the custom of our house." This girl might not sleep under any roof but theirs unless her mother was with her, or even spend an evening alone away from home.

The house and its furnishings showed equal discrimination. Partly foreign, partly Japanese, it combined our comforts with their artistic sense; their neatness and compactness and open-air beauty with our hygienic ideas. In food the arrangements were similar—whatever is best in both was chosen and the result was admirable. "And your English mistresses they look after all things?" my hostess queried one day. "We must not do so ourselves, but ask the head servant, and then another, and another, and so I can not find whom to blame; I wish I could go direct as you can." Indeed, the multiplicity of servants and the shifting of responsibility must make a Japanese mistress' life very complicated, and it certainly results in much unnecessary talking. Though scolding must be resorted to at times, one can not imagine that any voice of anger is ever heard, or lowering looks or sullen tones observable—smiles and gentle, soft-footed movements characterize the Japanese maids, whether of private house or of inn.

"Do you never want to kiss your children, or, rather, to pet them?" I asked one evening as the three dear mites, having made their formal bow and said their "O yasume nasai," left the room. "Yes, I should like to show my love sometimes; but it would not be good for them and after they are babies we never do." "But why would it not be good?" I persisted. "Oh, but because they would not then learn self-control, which we must all learn well." "Then, if your daughter goes to England and you do not meet for a year, when she comes back, you will just say: 'O hayo,' when you see her again?" "Yes; she would come and sit before me, and we should look much at each other, and, perhaps, we should cry a little, but that is all."

Until the coming of the foreigner a spinster was an unknown figure in Japan, and even now, when one wanders off the beaten track, it is impossible for the simple folk of Dai Nippon to believe the extraordinary fact that the foreign lady is unmarried; that she is really traveling alone; that even in far-off England she has no protector of the stronger sex. No husband? Impossible! "Why, then, is the honorable miss not married? Doubtless she soon will be, or, perchance, her lord is dead." "No?" And the wonder subsides but slowly. One day my students asked me:

"Do not your girls, then, think that they must marry?"

To the Japanese mind—as, indeed, to most Orientals—the be-all and end-all of woman's life is marriage; and it is only gradually dawning upon them that the single state is possible and bearable. The best—intellectually and spiritually speaking—of Japan's new women are refusing to marry men whom they recognize to be in so many ways inferior to themselves. "We wish to make good homes," is the cry of so many girls; "a woman's first duty is to be a home maker"—the often repeated phrase in essays; but there must be found fitting mates for women of these aspirations.

The whole question of love and marriage is agitating the ranks of Japanese girlhood and womanhood to-day, penetrating to the very throne itself, the crown prince having formally declared his intention of having no other wife but the crown princess, while she is said to be only biding her time to obtain the revocation of the old tradition that takes from royalty the custody of its own children, and confides them to others to bring up.—New York Sun.

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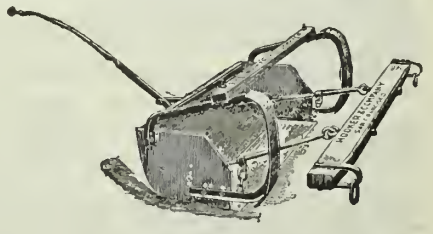
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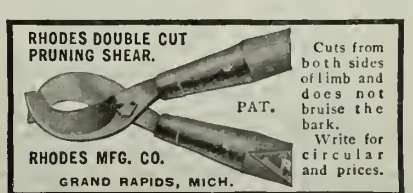
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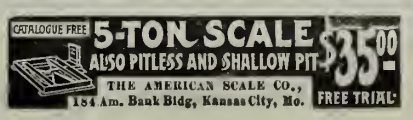
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The Markets.

San Francisco Produce Report.

San Francisco, November 22, 1904.

CHICAGO WHEAT FUTURES.

Wheat futures in Chicago were as follows for the week named, price being for No. 2 Red per bushel:

	Dec.	May.
Wednesday	$1 10⅜@1 12¼	$1 10⅞@1 12⅝
Thursday	1 12⅝@1 10¾	1 12⅞@1 11
Friday	1 10 @1 11¼	1 10¼@1 11½
Saturday	1 10¾@1 08½	1 11⅛@1 09
Monday	1 09⅜@1 06⅝	1 10⅛@1 08
Tuesday	1 08½@1 09⅛	1 09¼@1 09⅞

CHICAGO CORN FUTURES.

Prices of futures on No. 2 corn per bushel in Chicago were as follows for the week:

	Dec.	May.
Wednesday	49¾@51⅜	45⅞@46⅝
Thursday	51⅛@50⅜	46⅝@45⅜
Friday	50¼@50¾	45½@45⅞
Saturday	49½@48	45⅝@45¼
Monday	47¾@48½	45⅛@45½
Tuesday	48¾@49¼	46¾@45

SAN FRANCISCO WHEAT FUTURES.

The range of values in San Francisco for No. 1 White wheat per cental was as follows:

	Dec., 1904.	May, 1905.
Thursday	$1 45¼@1 45¼	$1 47 @1 46
Friday	1 45⅝@1 45	1 46½@1 46
Saturday	1 44 @———	1 45¼@1 41¾
Monday	1 43⅝@1 43	1 45 @1 43⅝
Tuesday	1 43½@1 44	1 44⅛@1 45
Wednesday	———@———	———@———

Wheat.

The local market has shown little change, as regards spot values, but trade has been light, in the absence of heavy offerings and the asking of generally stiffer prices than buyers saw their way clear to pay. This is especially the case as regards shipping wheat. Foreign markets are below the parity of values here, neither freight rates nor wheat yielding to a point affording shipments to be made at a profit. The contract of the Ship Owners' Combine fixing the minimum freight rate on wheat to Europe at 22s. 6d. will expire the coming month, and that there will be a renewal of the same, or any other contract, is altogether improbable. In the matter of ocean freights, it is likely it will be go as they please with ship owners after the first of the coming year. Few ships could secure wheat charter to-day at any figure, and certainly not over 17s. 6d. for the usual choice of European ports. High grade milling wheat is in fair request and in light supply in this State, and is not offering freely in Oregon or Washington. A Tacoma dispatch to the Chicago Record-Herald says: "The belief among well-posted grain men in the Pacific Northwest is that the wheat crop of the States of Washington, Oregon and Idaho is very much smaller than had been generally stated. About four-fifths of the crop has been sold by the farmers and indications are that the crop does not exceed 40,000,000 bushels, instead of 55,000,000, as claimed. Messages from Chicago, Minneapolis and St. Louis are coming into Tacoma, Seattle and Portland every day, asking for more wheat for Eastern mills, but handlers of grain can give little encouragement to millers East."

California Milling	$1 50 @1 60
Cal. No. 1 shipping, alongside	1 42½@1 45
No. 1 Oregon Club	1 42½@1 45

PRICES OF FUTURES.

During past week the range on options was:
December, 1904, delivery, $1.45⅝@1.43.
May, 1905, delivery, $1.47@1.43¾.
Wednesday, at the forenoon session of Exchange, December, 1904, wheat sold at $1.43½@1.44; May, 1905, $1.45@1.44⅛.

Ocean freights and prices for wheat, as compared with a year ago, are as follows:

	1903-04.	1904-05.
Liv. quotations	-s-d@-s-d	-s-d@-s-d
Freight rates	10½@11¼s	17⅛@20s
Local market	$1 35@1 37½	$1 42½@1 45

Flour.

There is a fair movement, both outward and on local account, at practically unchanged values, but only for best qualities are current rates being well maintained.

Superfine, lower grades	$3 25 @3 50
Superfine, good to choice	3 50 @3 75
Country grades, extras	4 25 @4 50
Choice and extra choice	4 50 @5 00
Fancy brands, jobbing	5 00 @5 25
Oregon, Bakers' extra	3 75 @4 25
Washington, Bakers' extra	3 75 @4 40

Barley.

There have been no pronounced changes in quotable values, but the market has ruled strong the current week, under limited offering of both feed and brewing descriptions and a fairly active demand. Buyers found it difficult to obtain feed barley of even fair quality as low as $1.10, and $1.13¾ was realized for some running a little better than No. 1. To secure export barley in noteworthy quantity an advance of at least 50c per ton would have to be paid on recent prices named by shippers. The exports of California barley are far behind, as compared with last season, only about a third as large, and will continue to be comparatively light throughout the current cereal year, for the substantial reason that the barley is not in the State to permit of as heavy shipments as last season. The ship Scottish Isles cleared this week with a full barley cargo for London, 63,125 centals, valued at $83,681.

Feed, No. 1 to choice	$1 12½@1 13¾
Feed, fair to good	1 08¾@1 11¼
Brewing, No. 1 to choice	1 15 @1 20
Chevalier, No. 1 to choice	1 20 @1 25
Chevalier, common to fair	1 00 @1 10

Oats.

Supplies of this cereal now in stock here are considerably lighter than at corresponding date last year, and are largely ordinary feed qualities. There is a fair movement in the cheaper grades, values ruling steady. Market for choice to fancy oats is strong. Extra choice oats are not obtainable in anything like wholesale quantity.

White oats, fancy feed	$1 50 @1 55
White, good to choice	1 37½@1 45
White, poor to fair	1 27½@1 35
Milling	1 45 @1 50
Black oats	1 30 @1 65
Red, fair to choice	1 25 @1 50

Corn.

Most of the corn offering is new crop, more or less damp, and for this stock the market is by no means favorable to buyers. Eastern sellers are decidedly independent, insistiug on full figures and giving no guarantee that the corn will arrive in first-class condition. There is practically no strictly choice dry corn to be had at any price.

Large White, good to choice	$1 45 @1 50
Large Yellow	1 45 @1 50
Small Yellow	1 60 @1 65
Egyptian White	—— @——
Egyptian Brown	—— @——
Eastern, in bulk	1 35 @1 45

Rye.

Market is moderately firm, supplies being of rather light proportions and mainly in few hands.

Good to choice	$1 42½@1 47½

Buckwheat.

Nothing doing in a wholesale way. Spot stocks are small. Based on buyers' views, market is quotable nominally at $2@2.25 for good to choice.

Beans.

There are tolerably heavy receipts of beans, but the bulk of the arrivals show damage from rain. Especially is this the case with Pinks and Bayos. It is the exception to find any new crop offerings of these varieties which are thoroughly dry. Those which are damp, but which are otherwise showing fair to good conditiou, are selling mainly within range of $2.00@$2.50 per cental. Market for good to choice, thoroughly dry beans of all varieties is firm at the values quoted.

Pea, fair to good, 100 lbs	$3 00 @3 25
Small White, good to choice	3 00 @3 35
Large White	2 35 @2 50
Pinks	2 00 @3 25
Bayos, good to choice	2 00 @2 75
Red Kidneys	4 50 @5 00
Reds	4 00 @4 50
Limas, good to choice	4 25 @4 50
Black-eye Beans	2 50 @2 60

Dried Peas.

Most of the California Peas offering are damp, and on such stock bids much over $1.75 per cental are not readily obtained. Some Eastern Green are to be had at $2.25 here. Choice California would, however, command an advance on this figure.

Green Peas, California	1 75 @2 25
Garbanzos, Large	3 25 @3 50
Garbanzos, Small	3 00 @3 25
Niles	1 75 @2 25

Hops.

There is no evidence of much doing locally. Offerings are not heavy, and to purchase freely, fully as stiff figures as have been current this season would likely have to be paid. The New York Producers' Price Current says: "The export demand for New York State hops has practically ceased, as the foreign buyers have about filled their complement. In consequence of this the State market is quieter, but prices remain unchanged, as the quantity of export quality remaining is decidedly small. Late sales in the State have been made at 35@36c. Business on the New York market has also been quiet and brewers are not very heavy buyers. Foreign markets remain unchanged." M. H. Durst, the California hop grower, now in Oregon, is reported to be endeavoring to form a pool of hops on the coast and put the market at 35c. Mr. Durst asks the growers to sign a contract turning over the hops to him, and giving him the exclusive right to do as he pleases with them for a period of ninety days, and to bind the contract requires that they be delivered at the warehouse and advances on the hops the sum of $1 per bale, for which he charges 5% interest, and in case the desired amount of hops is secured, he will advance a further sum of 10c per pound, on which interest is charged.

California, good to choice, 1904 crop	29 @32

Wool.

Nearly all the wools now coming forward represent purchases made in the interior, and in many instances at stiffer figures than are warranted as regular quotations in this center. In the absence of any noteworthy trading here, spot values for the time being are not clearly defined, but market is strong for all good to choice wools.

SPRING.

Northern, free	22 @—
Northern, defective	17 @21
Oregon, good to choice	20 @22
Nevada	15 @20

FALL.

Northern	14 @19
San Joaquin and Southern, free	12 @15
San Joaquin and Southern, defective	8 @10
Southern lambs, as to quality	8 @14

Hay and Straw.

Market is without appreciable change, and certainly shows no quotable improvement. Scott & Magner's hay circular says: "Although arrivals have been comparatively very light, nevertheless the demand has dropped off to such an extent that our market has been exceedingly dull. It is difficult to explain why it is that there is not a greater demand or more activity, but the fact remains that sales are only effected with great difficulty. The bulk of arrivals during the week has been of choice Wheat or Wheat and Oat Hay, with a result that these grades are somewhat harder to sell than the cheaper grades, and that, proportionately, the cheaper grades are bringing better prices. There is very little in the situation at present to warrant the idea that there will be any material change. The recent rains have undoubtedly helped many sections of the country, and will probably increase the shipments into this market as the green feed develops. Alfalfa is arriving in larger quantities and the market is correspondingly weaker. Straw is coming in just about as fast as the demand requires and is selling at previous quotations."

Wheat, good to choice	$12 50 @ 15 00
Wheat and Oat	12 00 @ 13 50
Tame Oat, fair to choice	8 00 @ 12 50
Wild Oat	8 00 @ 10 00
Barley	9 00 @ 12 00
Alfalfa	9 00 @ 11 50
Stock hay	5 00 @ 7 00
Compressed	12 00 @ 15 00
Straw, ₱ bale	40 @ 65

Millstuffs.

Bran is in only moderate supply and is being rather firmly held. Stocks of Middlings and Shorts are more than ample for current needs. Market for Rolled Barley and Milled Corn is firm at unchanged quotations.

Bran, ₱ ton	$18 50 @ 19 50
Middlings	24 00 @ 27 00
Shorts, Oregon	19 00 @ 21 00
Barley, Rolled	23 00 @ 24 00
Cornmeal	31 50 @ 32 50
Cracked Corn	31 50 @ 32 00
Oilcake Meal	31 50 @ 33 00

Seeds.

Spot supplies of Alfalfa Seed are mainly Utah product. The California article is just as desirable and will command equal money. Business doing in Mustard Seed is rather light, owing to limited offerings and not to lack of inquiry or indifference of buyers.

Flax	$1 75 @ 2 25
Mustard, Yellow	3 50 @ 4 00
Mustard, Trieste	4 50 @ 5 00
	Per lb.
Alfalfa	13 @14
Canary	6½@ 6¾
Rape	1¾@ 2¼
Hemp	3½@—
Timothy	5 @ 5½

Honey.

There is said to be some inquiry for shipment, but at figures below the views of holders generally. Current values on strictly choice to fancy water white honey are being well maintained, stocks of this description being of light proportions.

Extracted, White Liquid	6 @ 6½
Extracted, Light Amber	4½@ 5½
Extracted, Amber	3¾@ 4¼
Extracted, Dark Amber	3 @ 3½
White Comb, 1-frames	12 @13
Amber Comb	9 @11

Beeswax.

Market is lightly stocked and demand is fair at full current figures.

Good to choice, light ₱ lb	29 @30
Dark	27 @28

Live Stock and Meats.

There were no special changes in quotable values for Beef, but choice was in very good request and market for same was firm at prevailing values. Veal was in fair receipt and where of desirable size met as a rule with prompt custom at full figures. Mutton was in tolerably good supply, but demand for desirable qualities was not lacking, and market was moderately firm at quotably unchanged values. Lamb sold to fully as good advantage as for some weeks preceding. Hogs were not in heavy receipt, and market ruled firm, with good demand for all desirable offerings.

Allowing for the shrinkage of about 50%, which is exacted in buying cattle on the hoof, live cattle command as much or more per pound than dressed beef, the shrinkage exacted being the slaughterers' profit.

The following quotations for beef and mutton are based on prices realized by slaughterers from wholesale dealers:

Beef, 1st quality, dressed, net ₱ lb	6½@ 6¾
Beef, 2nd quality	5 @ 5½
Beef, 3rd quality	3 @ 5
Mutton—ewes, 6½@7c; wethers	7 @ 7½
Hogs, hard grain, 140 to 250 lbs	4⅞@ 5
Hogs, large, hard, over 250 pounds	4½@—
Hogs, small, fat	4½@ 4¾
Veal, large, ₱ lb	6 @ 7
Veal, small, ₱ lb	7 @ 9
Lamb, spring, ₱ lb	8 @ 9

Hides, Skins and Tallow.

Hides continue in good request, with market firm at ruling rates. Trade in Pelts and Tallow is moderately brisk and current values are being fairly well maintained.

Nothing but select hides, clean and trimmed will bring full figures. Culls of all kinds, either from grubs, cuts, hair slips, side brands or murrain, are not always readily placed at the lower figures.

	Sound.	Culls.
Heavy Steers, over 56 lbs	— @11	— @10
Medium Steers, 48 to 56 lbs	— @10	— @ 9
Light Steers, under 48 lbs	— @ 9½	— @ 8½
Heavy Cow Hides, over 50 lbs	— @ 9½	— @ 8½
Light Cow Hides, under 50 lbs	— @ 9½	— @ 8½
Stags	— @ 7	— @ 6
Wet Salted Kip	— @10½	— @ 9½
Wet Salted Veal	— @11	— @10
Wet Salted Calf	— @11½	— @10½
Dry Hides	— @17	— @16
Dry Kip and Veal, 11 to 16 lbs	— @15	— @13
Dry Calf, under 4 lbs	— @20	— @18
Pelts, long wool, ₱ skin	1 00@1 50	
Pelts, medium, ₱ skin	70@ 90	
Pelts, short wool, ₱ skin	40@ 60	
Pelts, shearling, ₱ skin	15@ 30	
Horse Hides, salted, large prime, each	3 00@—	
Horse Hides, salted, medium	2 50@—	
Horse Hides, salted, small	2 00@—	
Horse Hides, dry, large	1 75@—	
Horse Hides, dry, medium	1 50@—	
Horse Hides, dry, small	1 00@—	
Tallow, good quality	4 @4½	
Tallow, poorer grades	2½@3½	

Bags and Bagging.

Not much doing at present in bags of any description. Asking prices are without quotable change.

Bean Bags	$ 4¾@5
Fruit Sacks, cotton	6½@7½
Fruit Sacks, jute, as to quality	5¾@7
Grain Bags, Calcutta, 22x36, spot	5 @5¼
Grain Bags, San Quentin, ₱ 100	4 50 @—
Wool Sacks, 4-lb	32 @—
Wool Sacks, 3¼ lb	30 @—

Poultry.

As is invariably the case Thanksgiving week, Turkeys took the lead, and Dressed were in most active request. Receipts of this fowl included carload lots from Oregon, Texas and the East, California not raising enough for the home demand. Good prices were realized, especially for choice. Many of the birds were poor. Other poultry was not in in excessive supply and met with a tolerably firm market.

Turkeys, Dressed, choice, ₱ lb	$ 25 @ 27
Turkeys, Young, ₱ lb	20 @ 23
Turkeys, live gobblers, ₱ lb	17 @ 18
Turkeys, live hens ₱ lb	18 @ 20
Hens, California, ₱ dozen	4 50 @ 5 00
Hens, large	5 50 @ 6 50
Roosters, old	4 00 @ 4 50
Roosters, young (full-grown)	5 50 @ 6 50
Fryers	4 50 @ 5 00
Broilers, large	3 00 @ 4 00
Broilers, small to medium	2 50 @ 3 00
Ducks, old, ₱ dozen	5 00 @ 6 00
Ducks, large young, ₱ dozen	6 00 @ 7 00
Geese, ₱ pair	2 00 @ 2 25
Goslings, ₱ pair	2 25 @ 2 50
Pigeons, old, ₱ dozen	1 00 @ 1 50
Pigeons, young	2 25 @ 2 50

Butter.

Market is showing more steadiness, and it looks as though prices had about touched bedrock for the time being. Choice fresh is wanted East and will be for some time to come, but that materially higher figures than are now current here can be realized on Eastern account is not probable. The local demand is only fair. Many retailers are still asking comparatively stiff prices for fresh, in an effort to keep consumers on cold storage butter.

Creamery, extras, ₱ lb	20 @—
Creamery, firsts	18 @19
Creamery, seconds	16 @17
Dairy, select	18 @—
Dairy, firsts	17 @—
Dairy, seconds	13 @14
Mixed Store	10 @12

Cheese.

There are no particularly heavy stocks, but buyers are operating slowly, having no faith in the future of the market. Quotations are without special change, but outside figures are not readily realized in a regular way.

California, fancy flat, new	11½@12½
California, good to choice	10 @11
California, fair to good	9½@10
California, "Young Americas"	11 @13
Eastern	12 @14

Eggs.

Demand showed some improvement for choice to select fresh, owing to Thanksgiving, but there were increased receipts, and market was not especially noteworthy for strength. It is generally expected that prices will be materially lower for fresh at an early day. Market for cold storage eggs is easy in tone, with stocks liberal.

California, select, large, white and fresh	42½@45
California, select, irregular color & size	37½@42½
California, good to choice store	27½@32½
Eastern firsts	23 @27
Eastern seconds	19 @21

Vegetables.

There were no heavy receipts of fresh vegetables of any variety, and market for

desirahle qualities was in the main favorahle to the selling interest. Choice Peas, Beans and Tomatoes hrought improved figures. Onion market continued firm, stocks heing light.

Beans, Lima, ℔ lb	4	@	6
Beans, String, ℔ lb	3	@	5
Beans, Wax, ℔ lb	5	@	6
Cabbage, choice garden, ℔ 100 lbs	60	@	70
Egg Plant, ℔ box	75	@	1 25
Garlic, ℔ lb	4	@	5
Onions, Yellow Danver, ℔ ctl	1 75	@	2 25
Peas, Green, Los Angeles, ℔ lb	4	@	6
Peppers, Green, ℔ box	25	@	50
Rhubarb, ℔ box	65	@	1 10
Summer Squash, large box	1 00	@	1 25
Summer Squash, Los Ang., small bx	75	@	1 00
Tomatoes, box	50	@	1 00

NOTE.—Large boxes are what are known to the trade as "pay boxes," which have to be returned or paid for. They are open top, with hand holes in the ends, and weigh when filled from 50@60 lbs gross. Small boxes are free boxes, about the same as the regular fruit box, weighing when full from 20 to 30 lbs. gross.

Potatoes.

Choice to fancy Burhanks were not in excessive stock and sold to fair advantage on local account. Common qualities were plentiful, and trade in these dragged at fully as low figures as lately current. Sweets were in liberal receipt and market favored the consumer.

Salinas Burbanks, ℔ cental	90	@	1 35
River Burbanks, ℔ cental	40	@	75
River Reds, ℔ cental	65	@	75
Oregon Burbanks, ℔ cental	75	@	1 00
Sweet Potatoes, ℔ cental	65	@	85

Fresh Fruits.

Market for Apples was without improvement, the recent liberal importations from the North and East giving a surplus of this fruit. Most of these Apples represent purchases made hy speculators and dealers. Sales above $1.25 per box are the exception and are confined mainly to small transfers of high grade fruit of choicest varieties. The bulk of the business is within range of 75c@$1 per box, some very good stock selling at latter figure. Scruhby and seriously defective meet with little attention at decidedly low prices. Winter Nelis Pears, especially if large and sound, are commanding good figures. Persimmons were in fair request at slightly improved values. Pomegranates were held about as last quoted, with movement only moderate. Grapes were in light supply and in good request, hringing improved figures. Berries did not make much of a showing, and where of desirahle quality did not lack for custom, although prices were not particularly high.

Apples, fancy, ℔ 50-box	1 35	@	1 50
Apples, good to choice, 50-lb. bx	1 00	@	1 25
Apples, fair to good, ℔ box	60	@	1 00
Apples, Lady, ℔ box	1 75	@	2 25
Figs, Black, ℔ 1-layer box	40	@	75
Figs, Black, ℔ 2-layer box	1 00	@	1 50
Grapes, ℔ box or crate	50	@	1 00
Grapes, large open boxes	1 25	@	1 75
Pears, Winter Nelis, ℔ box	1 25	@	1 75
Pears, Cooking, ℔ box	50	@	75
Persimmons, ℔ regular box	50	@	85
Pomegranates, ℔ small box	50	@	75
Pomegranates, ℔ large box	1 00	@	1 50
Raspberries, ℔ chest	5 00	@	7 00
Strawberries, Longworth, ℔ chest	8 00	@	10 00
Strawberries, large, ℔ chest	3 50	@	6 00

Dried Fruits.

Stocks of dried fruit are showing steady reductions of all kinds except Apples. Market for Apples is not quotahly lower, hut cannot be termed firm. Peaches continue in active request, with offerings light, especially of the cheaper grades, and prospects of stiffer prices ruling before the season closes. An early clean-up of Apricots is expected and at fully as good figures as have heen current this season. There have heen no heavy stocks of Pears at any time this year and few which could be termed choice to fancy. Pitted Plums have also heen in comparatively light supply throughout the season; strictly choice are not readily obtainahle at extreme quotations. The Prune market is inclining upward, although quotations are without special change. It is generally conceded that the market for this fruit has seen its worst, and prospects rather favorable for a slight hardening in values before the season closes. The steamer Manchuria, sailing for the Orient on Saturday last, carried 34,500 lbs of dried fruit, exclusive of Raisins, and including 6500 lbs Prunes. The steamer Umatilla, for British Columhia, took, aside from Raisins, 8500 lbs assorted fruits.

EVAPORATED OR BLEACHED.

Apples, 50-lb boxes, rings, pressed, good to choice	4½	@	5
Apples, extra choice to fancy, 50-lb boxes	6	@	6½
Apricots, Moorpark	9	@	11½
Apricots, Royal, good to choice, ℔ lb	7½	@	8½
Apricots, Royal, fancy	9	@	10
Figs, 10-lb box, 1-lb cartons	55	@	60
Peaches, unpeeled, good to choice	7¼	@	7¾
Peaches, unpeeled, fancy to extra fancy	8	@	9
Pears, standard, ℔ lb	6¾	@	7¼
Pears, choice to fancy	8	@	10½
Plums, Black, pitted	5½	@	6½
Plums, Red, pitted	6½	@	8½
Plums, Yellow, pitted	6½	@	7½
Prunes, Silver, good to fancy	4	@	7½
Prunes, in bags, 4 sizes, 1½@1¾c; 40-50s, 3¾@4c; 50-60s, 2¾@3c; 60-70s, 2¼@2½c; 70-80s, 1¾@2c; 80-90s, 1½@1¾c; 90-100s, 1@1¼c; small, ⅞@1c.			

COMMON SUN-DRIED.

Apples, sliced	3½	@	4½
Apples, quartered	3½	@	4½
Figs, White, in bulk	2	@	2½
Figs, Black	2½	@	4

Raisins.

Demand for Raisins is active. Prospects are hright for a clean-up within the season of all stocks at fully as good or hetter prices than are now prevailing. A shipment of 87,000 pounds went forward the current week for British Columhia and Northwest Territory. The steamer Manchuria, hound for the Orient, carried 23,000 pounds. Large quantities are heing forwarded to points East hy rail.

CROP OF 1904.

(Fresno delivery except otherwise specified,)

London Layers, 2 crown, 20-lb box	90	@	95
London Layers, 3-crown, 20-lb box	95	@	1 00
Fancy Clusters, 4 crown, 20-lb box	1 35	@	——
Dehesas, 20-lb box	1 85	@	——
Imperials, 20-lb box	2 25	@	2 35
2-Crown Standard loose Muscatel	3¼	@	3½c
3-Crown Standard	3¾	@	4¼c
4-Crown Standard	4¾	@	5¼c
Seedless Thompsons	—@4	c	
Seedless Sultanas	—@3	c	
Fancy, 16-oz. Seeded	6½c		
Choice, 16-oz. Seeded	5½c		
Fancy, 12-oz. Seeded	5⅝c		
Choice, 12-oz. Seeded	4⅞c		
Bleached Sultanas, Woodland Dist., 50s	4¼	@	4¾c
Bleached Thompsons, Woodland Dist., 50s	4½	@	7½c

Citrus Fruits.

Receipts of Oranges are on the increase, and the quality is showing improvement. Demand has heen fair, hut sales have heen at a somewhat lower range of values than last quoted. Spot supplies of Lemons are not large and market is moderately firm for hest qualities. Stocks of Limes are ample for the demand and prices are without change.

Oranges, New Navels, ℔ box	1 75	@	2 75
Oranges, Seedlings, ℔ box	1 25	@	1 75
Oranges, Cal. Tangerines, half box	1 00	@	1 50
Lemons, California, select, ℔ box	3 00	@	3 25
Lemons, California, good to choice	2 25	@	2 75
Lemons, California, fair to good	1 25	@	2 25
Grape Fruit, ℔ box	2 00	@	2 50
Limes, Mexican, ℔ box	4 00	@	4 50

Nuts.

Few Almonds now offering from either first or second hands, and especially are choice to select in light supply. Walnuts are rapidly disappearing, and market for No. 1 stock is strong at current rates.

Chestnuts, Cal., ℔ lb	8	@	10
Nonpareil Almonds	14	@	18
Ne Plus Ultra Almonds	13	@	15
Languedoc Almonds	9½	@	12½
Shelled Almonds, ℔ lb	23	@	29
Peanuts, fair to prime	5½	@	6½
Cal Walnuts, No. 1 soft shell	12½	@	13½
Cal. Walnuts, No. 2 soft shell	10½	@	11½
Cal. Walnuts, No. 1 hard shell	11½	@	12
Cal. Walnuts, No. 2 hard shell	9½	@	10

Wine.

There is considerable new wine offering, hut there are no evidences of much changing hands in a wholesale way in this center. This year's dry wines are quoted at 14@17c per gallon, San Francisco delivery, hut top figure is more in accord with the views of growers than with the ideas of large buyers, so far as expressed. Market for sweet wines is not firm. Sweet wines of last year's vintage are offering in San Francisco at 32c per gallon in half barrel, the equivalent of ahout 29c for winery deliveries. The steamer City of Panama, sailing Saturday last, carried 37,407 gallons and 26 cases, including 34,460 gallons for New York. The steamer Californian, sailing Monday, carried 7,475 harrels or ahout 373,750 gallons, for Eastern points. Receipts of wine at San Francisco last week were 391,825 gallons, and for preceding week were 305,450 gallons.

Produce Receipts.

Receipts and exports of leading cereals and other California products for the past week and for the season to date, as compared with the corresponding time the previous year, are as follows:

FOR THE WEEK.		Since July 1, 1904.	Same time last year.
Flour, ¼ sks	65,524	2,026,347	2,450,083
Wheat, ctls	90,209	1,378 624	878,15?
Barley, ctls	183,522	1,787,794	3,522,264
Oats, ctls	21,897	529,826	574,945
Corn, ctls	11,706	82,443	58,295
Rye, ctls	782	26,770	21,533
Beans, sks	41,045	313,986	432,424
Potatoes, sks	29,627	509,706	518,845
Onions, sks	2,252	64,261	81,295
Hay, tons	2,574	88,178	92,109
Wool, bales	1,698	35,821	30,774
Hops, bales	1,050	26,125	20,553

EXPORTS BY SEA.

FOR THE WEEK.		Since July 1, 1904.	Same time last year.
Flour, ¼ sk	30,388	1,590,420	1,718,676
Wheat, ctls	9,246	429,888	387,411
Barley, ctls	71,251	961,392	2,841,927
Oats, ctls	4,588	14,839	11,165
Corn, ctls	7,530	38,572	7,451
Beans, sks	256	28,039	16,847
Hay, bales	95	67,767	72,444
Wool, lbs		809,532	1,582,594
Hops, lbs	50,635	184,148	388,435
Honey, cases	7	1,146	3,076
Potatoes, pkgs	1,393	41,503	38,451

A MONSTER PEAR.—Marysville Appeal, Nov. 17: A monster Bartlett pear was brought down yesterday from the Richard Davies place in the Wood tract and placed on exhibition. It is 9 inches in height, measures 16 inches around the bottom and weighs five pounds.

New Patents.

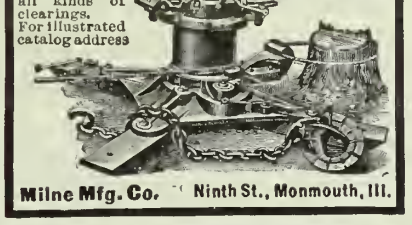
DEWEY, STRONG & CO.'S SCIENTIFIC PRESS PATENT AGENCY, 330 Market St., S. F., has official reports of the following U. S. patents issued to Pacific coast inventors:

FOR THE WEEK ENDING NOVEMBER 8, 1904.

774,144.—SPIKE—J. B. Anderson, Portland, Or.
774,641.—SHADE FIXTURE—R. Barkhurst, S. F.
774,373.—RAILWAY SWITCH—W. J. Bell, Los Angeles, Cal.
774,229.—DOOR CATCH—C. A. Borein, Oakland, Cal.
774,304.—METALLURGICAL PROCESS—M. P. Boss, S. F.
774,232.—FURNACE—A. C. Calkins, Los Angeles, Cal.
774,465.—STEAM TRAP—J. Campbell, Port Blakeley, Wash.
774,414.—PHOTO MOUNT—E. S. Cheney, Oakland, Cal.
774,466.—GAS MACHINE—E. F. and E. P. Clough, San Jose, Cal.
774,564.—BOILER—J. M. Colman, Port Townsend, Wash.
774,167.—ARMOR PLATES—W. E. Everette, Tacoma, Wash.
774,384.—WATER PIPES—P. E. Fisher, Spokane, Wash.
774,470.—FIRE ESCAPE—Hamilton & Lewis, Seattle, Wash.
774,725.—CLEANING COFFEE—Hastings & Harrington, Sacramento, Cal.
774,476.—CONVEYOR—D. E. Hughes, San Diego, Cal.
774,389.—BUTTER CUTTER—A. C. Hummer, Seattle, Wash.
774,431.—EXCAVATING BUCKET—F. M. Ireland, Portland, Or.
774,390.—ILLUMINATING TILE—P. H. Jackson, S. F.
774,729.—AUTOMATIC TAP—C. Lewin, S. F.
774,483.—CAN SOLDERING MACHINE—A. Lotz, S. F.
774,442.—WAVE MOTOR—G. M. Lynch, Los Angeles, Cal.
774,592.—CURRENT MOTOR—J. S. Mathews, Pendleton, Or.
774,527.—DIRECTORY—G. W. Maxwell, Los Angeles, Cal.
774,329.—EDGE RUNNER—W. A. Merralls, S. F.
774,446.—PREVENTING SNORING—S. A. Moulton, Campbell, Cal.
774,489.—GLOVE—O. W. Noll, S. F.
774,273.—ORE MILL—C. C. Pratt, Portland, Or.
774,398.—STAMP STEM—W. Reine, Quartz Mountain, Cal.
774,206—SASH FASTENER—C. G. Seaman, Spokane, Wash.
774,539.—BASS DRUM AND CYMBAL—J. P. Stanton, S. F.
774,292.—SAW HANDLE—A. E. Townsend, Centralia, Wash.
774,315—BANK CHECKS—S. M. & L. M. Trapp, Seattle, Wash.
774,408.—CAR SEAL—Williams & Hinson, S. F.

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Druggists know. Here is what a large city drug firm says:

"When we are asked for something good for kidney trouble there's just one question that gives us a line on its seriousness, viz: HOW LONG HAVE YOU HAD IT? if only a few days or a few weeks we have a number of things. But if for months nothing but Fulton's Compound for Bright's Disease will effect the cure."

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You know how long you have had your "kidney trouble" as you call it. If only for a few days or weeks, although delay is dangerous, possibly you can still play with it a little longer by calling it "kidney trouble" and taking simple "kidney trouble" remedies. But if you have had it for several months nothing but Fulton's Renal Compound for Bright's Disease stands between it and death. You owe it to your family to treat that trouble seriously.

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THE POULTRY YARD.

Chicken Houses for California.

By Mr. James Shackleton, in the Petaluma Poultry Journal.

Let me tell what I regard as the essentials of a proper poultry house, especially for California, though they are equally essential wherever fowls are kept, and it is only in minor details that an actual design needs to be modified to suit the special local conditions of any locality or climate.

Firstly, the house should admit the maximum of sunlight, and sunlight should penetrate as nearly as possible into every part of it, into every corner, up to the roof and down to the floor. For sunlight is the best killer of decomposition. You may use disinfectants until the place stinks to high Heaven of them, but they will not be one-tenth as effective as abundant sunlight.

Secondly, the house should have the maximum of fresh air. Plenty of sunlight and plenty of fresh air together are death to about all that is deadly, are sure removers of dampness, prevent filthy decomposition of excrement, make cleanliness easier. You don't need lice or mites, but you had better not believe that they are responsible for one-thousandth part of the troubles they are commonly debited with. And in a sunlit, well-aired house that is kept clean, with good dust baths for the fowls, you can keep down both lice and mites well enough by an occasional painting of a board swung close below roosts with lice paint. Lice paints as sold are all right, except that they are expensive. The best lice paint there is need not cost most people more than 15 cents per gallon. It is the so-called light oil, or dead oil, that is skimmed from vats in which coal tar or gas tar is kept for decomposition of pitch. Where this is unobtainable, a reasonably good substitute is one pound of crude naphtholene dissolved in one gallon of kerosene. Refined naphtholene is on the market as moth balls, but the crude is better and cheaper where you can get it. If you add half a pint of crude carbolic acid to the solution so much the better. The mixture need not cost more than 30 cents per gallon in most places, sometimes much less. And a gallon ought to last more than a year for one house if always kept tightly corked.

The above two essentials call for a house that faces the south or a little east of south. They call for a shed roof in one slope from front down to rear. The construction I propose has been objected to on the ground that a man can not stand erect all over the house. My answer to that is that we build houses for fowls, not to suit the dignity of their attendants. The construction I propose permits the minimum of expense, the maximum of good effect. To make it higher for any reason is to make it worse for the fowls, and the only possible objection is that a man has to stoop somewhat in some parts of the house.

I want to extol the virtues of a front corridor, which ought to be used even if the house is single, and is of value far beyond anything apparent at sight when the houses are many in a continuous range. The presence of a front corridor enables us to leave the house fully open in nearly all weathers during the day time, and, as the front corridor has curtains, only the corridor need be closed during the day in any weather, however rain is driving in.

Where there is plenty of room and plenty of money, a scratching shed may be alongside each roosting room, but is not necessary if roosts, nests and water vessels are hung well above floor.

As to board floors or dirt floors (otherwise ground surface) there is a vast amount of useless rot current. If the ground is dry, never can become and remain damp, you need no board floor, unless as part of a scheme to keep rats out. And because people have houses that get little sunlight and fresh air is why they have trouble with dampness from the ground in many cases. So you can use board floor or earth floor, according to the dictates of common sense as applied to your location.

Let me describe the house I advocate. The structural details may vary greatly so long as the essentials remain unaltered.

It must face due south or a little east of south, so as to get the maximum of sunlight, especially in the morning.

It must have a low back and a high front, with a shed roof in one slope downwards from front to rear, so as to permit the sunlight to penetrate every part as nearly as possible, which can not be done in any other way.

It must have a front corridor. This front corridor is an advantage everywhere, but especially for winter where snow prevails. It is of immense advantage when houses are in a continuous range. Strap rails may be laid on its floor, and a car run thereon with food in a box at one time, with a box for droppings at another time. Then have a tilting trough in front of house, on which all food may be put in by the corridor.

The house may have a scratching floor alongside of it, but that is not needed if all the floor is usable for scratching, by raising nests, roosts, and everything besides dustbox on platforms above floor attached to walls. Even the dustbox may be on legs. The whole front of the house and the whole front of the corridor are to be covered with wire netting. There is to be a door frame on hinges opening inward, also covered with wire netting, for the house. Also a door-frame on hinges opening outward, covered with wire netting, for the corridor, into the yard. Fowls' exits are in front of house under corridor. All the light and air that can come get in at the front. The other covering of front of house and of corridor is cotton sheeting on hinged frames, so as to be always open in the day time, only shutting the corridor curtains for driving rain and snow. Leaving the house front fully open, too, in warm weather, and the corridor front fully open then all night, too, when the absence of rain is certain. In winter the curtains of the house are closed at night. It is not quiet cold air that hurts fowls, but winds and draughts.

There are many queries about ventilators to dry out damp houses, even when damp only from the respiration of the fowls. Ventilators are scarcely needed anywhere in poultry houses or elsewhere—never in poultry houses. They are just draught producers.

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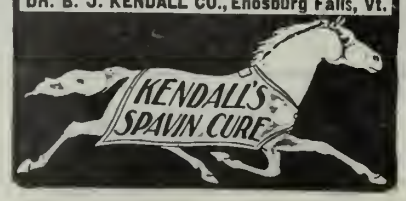
Superior, Mont., Feb. 24, 1904.

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Gentlemen:—Please send me a copy of your "Treatise on the Horse and his Diseases." I have used your **Kendall's Spavin Cure** for ten years and will say it is the best Spavin Cure made. Just cured a spavin on my horse with it. **I have cured 11 spavins in ten years with Kendall's Spavin Cure.** Yours truly, MIKE RILEY.

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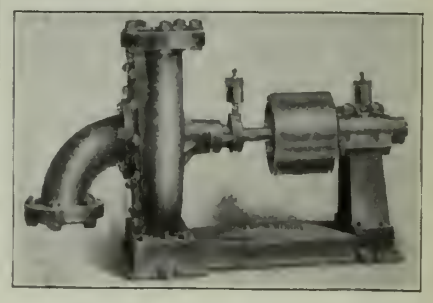
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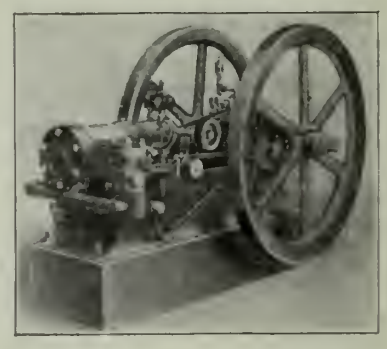
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THE DAIRY.

The Dairy Cow Tests at St. Louis.

We have already given a portrait and some interesting facts about the Jersey queen "Loretta D.," owned by the Ladd Estate of Portland, who won at the St. Louis fair over all comers. She stood first among seventy cows, representing the Jersey, Holstein, Shorthorn and Brown Swiss breeds, in both competitions, viz.: Test "A," for demonstrating the economic production of butter fat and butter, and test "B," for demonstrating the economic production of milk for all purposes related to dairying.

We have now a review of the performance of the different breeds which, though written from the Jersey point of view, presents, we presume, the correct figures in making the comparative statements.

THE JERSEY COW'S POSITION. — The returns from St. Louis reaffirm her place at the top as an economical producer of butter fat. They vindicate the claim of her admirers that she is the largest producer of butter fat. (The "accident" of one Holstein leading by .32 of a pound of butter is disposed of further on.) As she led the Guernseys and Shorthorns at Chicago ten years ago, so she led the Holsteins, Shorthorns and Brown Swiss at St. Louis. The Holstein herd is second to the Jersey herd at St. Louis. Twenty-five Jerseys made more butter fat per cow than the fifteen Holsteins, and did it at a greater profit. The lowest fifteen Jerseys beat the fifteen Holsteins.

This backs up the oft-repeated claim that "there are more of the right kind of dairy cows among the Jersey breed than among the others." The fifteen highest yielding cows in estimated butter are eleven Jerseys and four Holsteins. When net profit is figured up, the showing will be even more favorable to the Jerseys, for it is conceded that their food cost per pound of butter fat was lower than the other breeds.

It proved that the Jersey is not a small milker, some of the cows having milked as high as sixty pounds in one day, eighteen of the twenty-five averaging from 40 to 47.7 pounds daily for four months, and the whole herd averaging 41.5 pounds for the entire period of the test.

It proved the Jersey's persistency in keeping up a normal flow of milk, in the fact that their average for the entire period was within 2.3 pounds per day of their yield for the first ten days of the test, and that the average for the last ten days was within 6.3 pounds per day of the average for the first ten days. During the first ten days they averaged 43.8 pounds per day; during the last ten days 37.5 pounds.

It proved in a measure the claim that the Jersey is a 5% breed or over, on the average. I say "in a measure" because the test was not of long enough duration to get the average for an entire milking period. They started with an average for the herd 4.2% fat in their milk, gradually growing richer until the last day they averaged 5.1%, and averaging for the whole period 4.8%. Let the Babcock be put to them for the rest of their milking period and see if this herd of representative deep-milking Jerseys will not average nearer 6% on the year.

MEANING TO JERSEY BREED AND BREEDERS. — The practical results should add to the popularity of Jersey cattle and stimulate the demand for Jersey blood. If, as has been claimed, there are those who have not been convinced of the Jersey's superiority by previous performances, both private and public, they have in this demonstration "official" evidence of just what can be expected of representative Jerseys, regardless of family, strain or nativity. While the Chicago record was the cause of a revival in Jersey interest, the St. Louis one is so far ahead in milk, in percentage of fat, in pounds of fat, and consequently in net profit, that it gives the careful breeder of Jerseys a fresh and stronger claim upon the patronage of high-class dairymen.

The St. Louis records come nearer supporting the larger private tests than any public event has previously done. Here a herd of twenty-five Jerseys developed a twenty-pound cow, two nineteen-pound cows, an eighteen-pound cow, seven seventeen-pound cows, and the whole herd averaged nearly sixteen pounds every week of the test. If this is possible with twenty-five cows, why should not 100,000 cows turn out the much smaller proportion of twenty-pound cows than have been developed in home tests? At St. Louis no attempt was made to push any cow for a large week's performance, and it is probable that many of these cows could have been forced for seven days, just as a horse is forced for a two-minute sprint, and equaled some of the highest home records. But the criticism which would follow, that "she couldn't do it for a year," is about as pertinent as to say the horse could not go a two-minute clip all day.

Briefly, the most important thing to the Jersey breed and breeders, the St. Louis records have verified about every representation made in regard to the Jersey breed.

THE HOLSTEIN COW'S POSITION.—She stands second among the four breeds competing at St. Louis. She proved her claimed ability to produce large quantities of milk at flush. With fifteen picked cows they went fresh into the test, milking an average of 64.1 pounds per day, and by the end of the test had fallen off 15.6 pounds per cow for a day. Their milk tested 3.3 the first day and 3.8 the last day. They averaged twelve and one-half pounds fat less per cow than the twenty-five Jerseys did, and fifteen pounds less estimated butter. The fifteen Holsteins made twenty-nine pounds less butter-fat per cow than the fifteen best Jerseys did. Only four of the Holsteins finished among the fifteen best cows in the test, in yield of estimated butter, and the cost of production will probably reduce that number.

One Holstein cow led the highest Jersey by $\frac{32}{100}$ of a pound in 120 days, with the Jersey gaining on her every day after a feeder in the Holstein barn had been discharged for irregularities in feeding. But suppose this high testing Holstein (which fell off from something like 72 pounds of 4% milk to about 60 pounds of 3.2 milk immediately the feeder left) did not gain an unfair lead in the start? Suppose we grant her early work was fairly accomplished? Where would she have stood in the year? One more milking and the Jersey would have passed her in gross product, and actually does lead her in net profit. The 15 lowest Jerseys lead the 15 Holsteins in butter fat and net profit in producing it.

When the cost of production is counted it will be still more apparent that even for the flush period of this test the Holstein stands second to the Jersey. And the way she was falling off, compared with the Jersey's persistency at the close, makes it certain the Holstein would be away in the rear on a year's work. And this does not show the superior quality of the Jersey butter when churned, as the test was in estimated butter alone; though in estimating the butter Professor Farrington recognizes that the fat in Holstein milk is less of it available than is that in Jersey milk. He knows that the richer the milk, the larger percentage of its butter fat is recoverable in the churn, and in his method of estimating butter from the Babcock test he has a sliding scale for overrun that gives Jersey butter a greater gain than the lower testing breeds.

In gross product of butter fat, in net profit on butter fat, and in persistency in flow of milk, the position of the Holstein is second to the Jersey, as shown by the St. Louis test.

BROWN SWISS AND SHORTHORNS.—Neither of these breeds has made any pretensions as rivals of the Jersey as strictly dairy cows, though some claim has been made as to the profitableness of their combined dairy and beef features. The dual purpose business, however, has so limited a field where profitable, that it is hardly worthy of consideration by people who make dairying the end of profit from their farms. Very few dairymen care anything about the beef feature of the cows they milk, and and I think it will be just as well for the dairy business if none of them did.

In the St. Louis test the five Brown Swiss cows gave an average of 43 8 pounds of milk for 120 days, 1.58 pounds butter fat, and 1.84 pounds estimated butter, per cow per day. They milked an average of 50.6 pounds the last day, their yield of fat for corresponding days being 1681 pounds and 1.59 pounds per cow.

Twenty-five Shorthorns went into the test milking 37.7 pounds average, and on the last day 24 cows averaged 31 9 pounds. They averaged 1 36 pounds fat the first day and 1.28 pounds per cow the last day. Their average yield per cow daily, for the entire period of the test, was 40.33 pounds milk, showing a much larger yield between the first and last days of the test.

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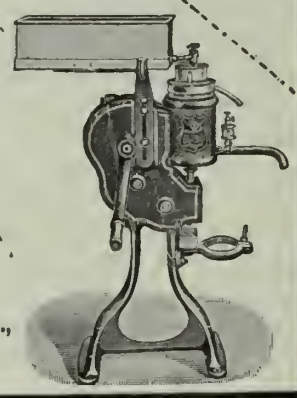
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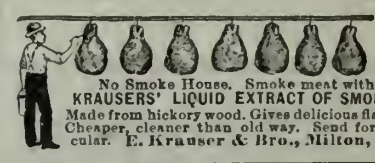
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The noon hour was spent around the festal board with joy and satisfaction to all. A class of three were initiated in the first and second degrees of the Order in an impressive manner.

Question of the day, "What is required as the outside attraction of the ideal home?" The discussion was opened by the Worthy Lecturer, Miss Swanson, who had prepared a most excellent paper. Sisters Morris, Nelson, Stiles and Brothers T. Jacob, F. Stiles, Barber and most all present expressed themselves how to make the outside of our homes attractive. Many valuable thoughts were presented. These discussions along practical lines have a tendency to educate our members how to beautify their homes and assist to make life pleasant.

The question box being opened the following questions were answered:

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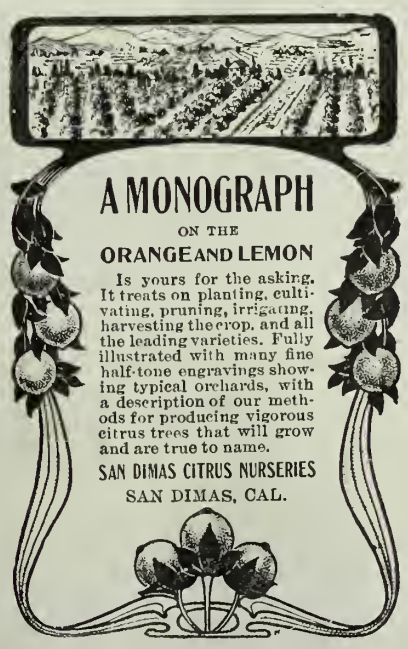
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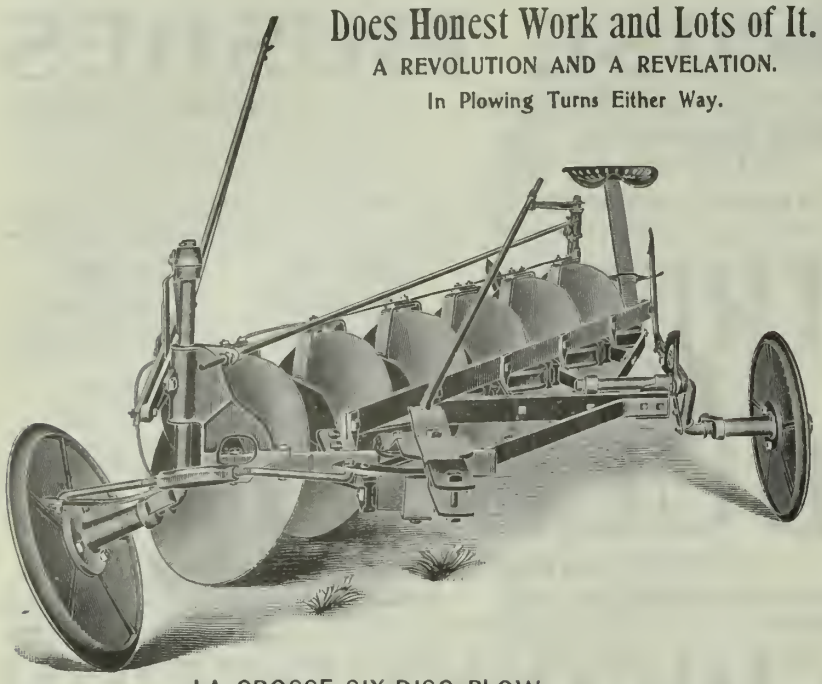
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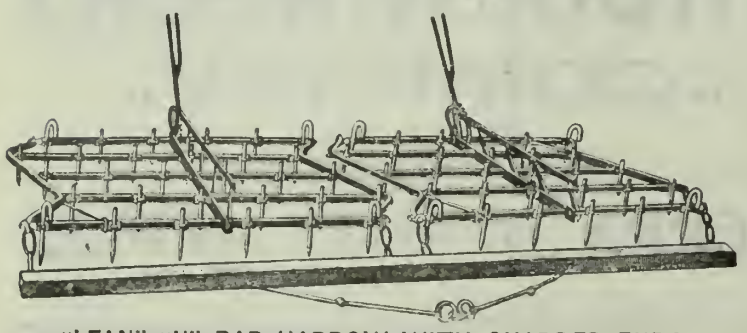
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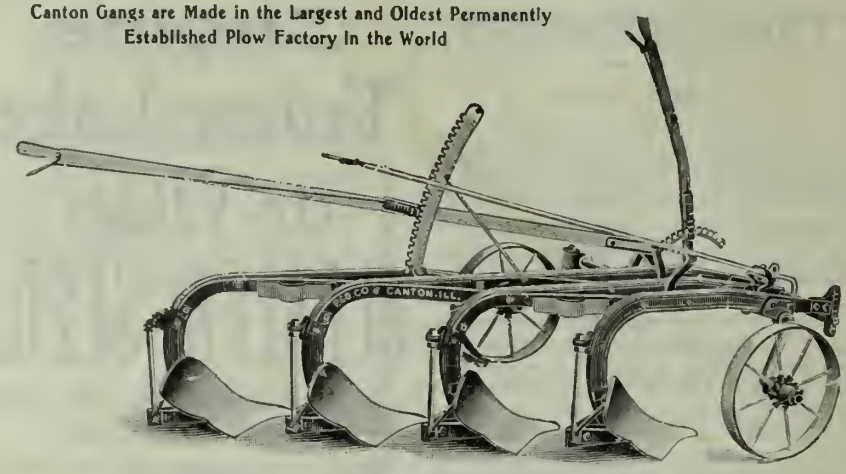


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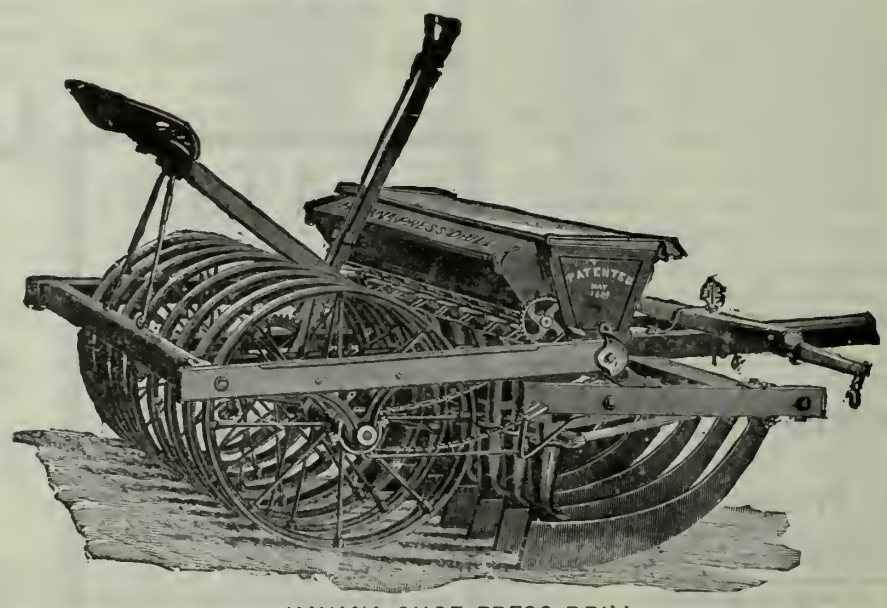
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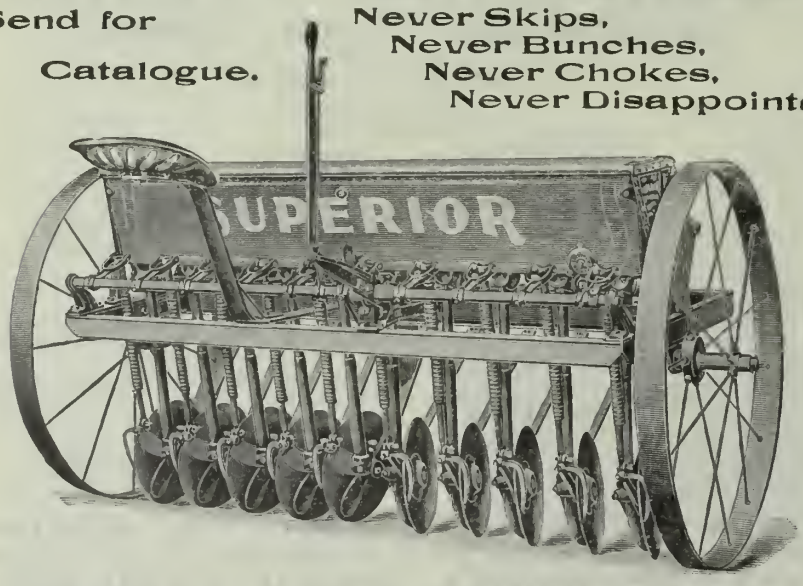
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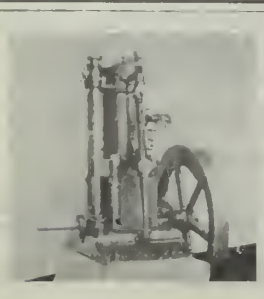
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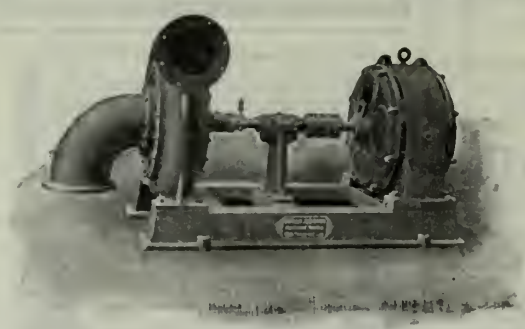


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In the Humboldt County Redwoods.

In the issue of the PACIFIC RURAL PRESS of September 17 we gave some interesting facts about the grand redwood forest of Humboldt county, with a good illustration, which we received through the courtesy of the Eureka Times, publishers of the Humboldt County Souvenir, which makes a great showing for the resources of the county. Redwood forest is intensely interesting from several points of view: First, it is so intrinsically valuable as a source of lumber of unique quality and beauty; second, California has all there is of it in the world; third, the redwoods of the coast are a complementary species to that of the Sierra Nevada, famed as the "big trees"—and California has all there are of that species also. The picture on this page shows that even if the big trees of the Sierra should sink their several thousand years of growth into the bowels of the mountains, California would still be well fixed for large trees in the coast regions. Redwood trees are found all along the coast from Humboldt to Santa Cruz county. Of this remarkable timber Humboldt originally had about 510,000 acres, or in round figures, 500,000 acres. From the date of settlement to the present time it is estimated that about 90,000 acres of redwood have been timbered off, leaving as a present holding 410,000 acres. This area would be somewhat reduced upon close estimation, as it embraces considerable quantities of spruce, fir, pine, hemlock and white cedar. The forest extends in an irregular belt 108 miles through the county from its southern to its northern limits, varying in width from 2 or 3 miles to 15 or 20 miles. The territory covered embraces level river bottoms, high table and rolling land, and steep hills, generally covered with a dense tangle of undergrowth. The most competent timber experts reckon upon an average of 50,000 feet of merchantable lumber to the acre, besides which there must be taken into consideration the refuse—shingle bolts, railroad ties, fence posts, etc.—which yield nearly an equal value.



IN THE REDWOOD FORESTS OF HUMBOLDT COUNTY: A MONSTER TREE.

The bulk of sales of redwood lands two or three years ago was on a basis of from 30 to 50 cents a thousand for estimated standing timber. These figures have gradually been hardening, until at the present time no desirable holding of available timber can be had for less than 50 cents to $1 a thousand for estimated standing timber. The choice holdings will command from $1.50 to $5 per thousand, and the upward tendency is very pronounced, with every indication of steady appreciation for several years, being stimulated by railroad projecting; that is to say, that hereafter deals will be made more closely, based on actual operating values. Where redwood stumpage is bought for operating purposes, it commands from $1.50 to $5 a thousand.

One remarkable feature of the redwood forests is its positive assurance and absolute immunity from destruction by fire. This immunity arises from two causes: The redwood is non-resinous, the trunks are covered with a soft, fibrous bark from 4 to 16 inches thick, according to age, and no forest fire seems able to affect a tree after it has attained 6 to 8 inches in diameter. And second, in the dense, tall, old redwoods the rays of the sun are so effectually excluded, so much moisture is retained in the soil and tangled undergrowth, and the trees gather so much moisture from the ocean fogs, which in turn they discharge in drippings to the ground beneath, that fires do not make much headway or produce much heat, as is the case in pine forests.

Nature has thus provided a positive assurance against loss by fire in such an investment. The writer of this once measured a fallen tree 14 feet in diameter. Over 100 feet from where its roots had been upturned was a redwood fully 10 feet in diameter, which had grown against the fallen log in such manner that it had partly grown over it. The standing tree could not have been less than 500 years old, and yet the fallen log had not been greatly injured by fire—it had many thousand feet of timber in it.

Such a thing as a destructive forest fire is unknown in redwood timber. In fact, it is impossible to burn a redwood forest. This is shown by the method of logging there, which arouses the greatest surprise among those accustomed to working in pine.

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The Week.

Since Thanksgiving there has been a splendid rain covering the northern half of the State, and in connection with the high temperature is pushing the growth of grass and early sown grain delightfully. Frosts have been few and light, and thus far, at least, the winter promises to be warm and wet—quite up to the standard which the pioneer likes to recall as an old-fashined rainy season. Those who put in alfalfa after the early rains this fall are now rejoicing in a good stand too high to fear frost, and sowing is still being done by those who feel safe in chancing such a year as this to bring it out all right. We do not remember a year in which so much fall sowing of alfalfa has been done and with such good promise. The grain acreage also is unusually large and it has gone in under very favorable conditions. The only regret is that the sounthern counties are still waiting for rain and using all the irrigation water which can be had in keeping things along. There is, however, plenty of time for things to take on a better aspect in that part of the State.

Speculative wheat has softened a little at the East, though values have held better there than here where futures are off about 2½c since our last report. Spot wheat is also quotably lower, although the affair is largely nominal as so little business is being done. Bears are banking on the very favorable outlook for a larger product this crop year. Barley is firm and unchanged, though bears are trying to work things for a break. Barley is, however, a hard thing to depress. One full cargo has gone for Scotland and a part of a cargo for London—$100,000 worth in all. Minor cereals are about the same; quite a lot of buckwheat has come in and gone to a miller. Beans are still firm for the best lots. Bran is firm and middlings steady. Although hay receipts are moderate, there is a free offering and scant demand. Beef and mutton are unchanged and hogs are higher—as both packers and pork butchers are active. Butter has rather a better tone with a demand for shipment, but at rather low figures. Cheese is quiet and easy and eggs are lower and easy at the decline. The turkey trade broke just before Thanksgiving, but too late to help consumption much and some stock went into the cooler and not much activity is shown yet. Chickens are fairly steady, weakened somewhat by Eastern receipts; ducks and geese hold up well. There is little change in potatoes; fair demand for the best and surplus of common stock. Onions are higher, with receipts announced from Oregon and Utah. Apples are in heavy supply and no better either in price or quality. There are also many oranges with complaint of size and ripeness, but some will go out to Australia and Hawaii this week. Dried fruits are firm except apples, which are still weak at the East. Another million and a quarter pounds of prunes go out this week in three steamers, to London, New York and British Columbia — largely to London Prune quotations are unchanged, but the market is firm for desirable sizes. Choice nuts are in light stock, but defective grades are not cleaning up well yet. There is little honey here, but it is barely steady and efforts to clean up not succeeding. Hops are very quiet and the effort to concentrate not successful yet. Wool is strong and dealers do not give quotations. Sales in Australia are 4 to 6 cents above last year, and London sales also favor growers.

Washington telegrams say that the Secretary of Agriculture will announce in his annual report next week the successful result of the crossing of the sweet orange with the hardy Japanese oranges, and the work of distribution will be inaugurated the coming winter. It is stated that the oranges are valuable for marmalades, and from the fact that they may be grown in nearly all Southern States, great possibilities for their usefulness are opened up. Even if they should not come into general use for manufacturing purposes or for general orchard planting, they will undoubtedly eventually become a feature in every dooryard throughout the South. We are glad that the announcement is made in these moderate terms, for people are often likely to be misled into too great expectations in the line of new fruits, and this statement will, we hope, prevent wary people from dangerous commercial ventures on a wrong basis. The waste of the present orange growing regions would make more marmalade than the world's trade has any use for, and to plant for it, except for home use, is vain. The Secretary also announces the fruiting this year for the first time of a sweet orange of the hardy type and other new citrus fruit, such as the new tangelo, which is a cross between the tangerine and the pomolo, a new velvet skin orange, and several other creations, which will be tested in sections where the climatic conditions favor the more tender sorts.

This is all interesting and no doubt all the new citrus fruits will be brought to this State for trial. We are, however, particularly interested in another announcement, viz., that the Department will send Mr. G. H. Powell to Riverside, with assistants, to take up local studies of orange handling, with a view to smoothing over some of the rough places which now exist in that important part of the business. Some of these, likely enough, involve cultural processes, and Mr. Powell is qualified to hunt down errors all the way from the tree to the packing house. He made a very favorable impression upon the Riverside growers by his former visit, and he will be given every assistance to carry his work to valuable conclusions.

The latest estimate of the world's available wheat for 1904 shows that the crop in Europe was 200,895,000 bushels less than in 1903; that the crop of America was 81,436,250 bushels less than in 1903, and that the crop of Oceania was 21,281,250 bushels less than in 1903. The crops of Asia and Africa, on the other hand, have increased by 56,182,500 and 2,837,500 bushels, respectively.

Preparations are advancing rapidly for the Lewis and Clark Exposition to be held next year in Portland, Or. It is planned to make as complete and representative collection of California apples as can be found and put them in cold storage. The State Board of Trade has sent communications to each and every large apple growing county in the State, addressing growers and local organizations that are in a position to help to advertise the resources of California in this way. While the season has been bad for apples in some sections, the general outlook is good for a showing at Portland in 1905. Probably some of our readers will be interested in the effort to establish the quality of the California apple and can make contribution of good fruit. It must be extra good to show alongside the apples from the upper States of the coast. Californians are taking much encouraging interest in the Exposition. The California Development Committee is arranging for an excursion of several hundred people to be present on June 1, the formal opening day.

QUERIES AND REPLIES.

California Apple Houses.

To the Editor:—Can you furnish me with plans or suggestions for the construction of a house for the storage of apples?—New Comer, San Bernardino.

The construction of houses for apple storage is a very simple matter in California. There are no freezing temperatures to exclude. The main thing to observe is to maintain an atmosphere with such a degree of moisture that the fruit shall not shrivel; at the same time not enough to promote decay. Most houses are simple, barn-like structures, with single boarding, and the apples commonly stored in boxes or shallow trays on racks so that the air can be distributed well and the fruit conveniently handled when picking over. Deep bins are undesirable—not more than a foot in depth and generally less than that should be provided for. The floors are made of cement or earth, and moist air is provided during dry spells in the winter by sprinkling the floors. The cement or earth floors are better than the board floors, because they afford no shelter for rats, and also because the distribution of moisture is better. As the storage of apples is to be maintained chiefly in the fall and winter, double houses for the exclusion of heat, such as are used for lemon storage, are not thought to be neccssary. Apples will keep in almost perfect condition in boxes piled under the trays and covered with sacks or something of that sort, so you can see that an elaborate structure for storage is not required.

Gopher Destruction.

To the Editor:—What can I do to destroy moles or pocket gophers that are destroying my carnations, and thus causing considerable damage? I have set traps but cannot catch them. I have tried strychnine on wheat and potatoes—they will not touch it. I have lost hundreds of plants already and cannot help myself. Can you suggest any mode of destroying them or trapping them?—Grower, Loomis.

There does not seem to be any easy way to destroy gophers. Wide experience seems to be that if special gopher traps are used and carefully set according to the instructions furnished by the manufacturers, a very high percentage of success is attained. Strychnine is sometimes effective in pieces of fruit or in raisins and prunes, which are luxuries to the rodents and readily taken, but it may be claimed after all that the best way to get a gopher is to watch until he arises and use a shot gun. We know in our own experience some wise old gophers which we could neither poison nor trap that were gotten in that way. Gophers have different times of working and by observation you can usually tell when they are most likely to appear at the surface.

Tea Growing in California.

To the Editor:—Will you tell something about tea growing in California?—Amateur, Los Angeles.

Tea plants have been grown in California in a small way for the last forty years or more. In early times there was quite a large plantation in El Dorado county and the expectation of producing tea was indulged in. The difficulty in producing tea apparently lies in the impossibility of getting labor to gather the leaves and manipulate them in competition with the cheap labor of Asia. What the quality of the product would be as compared with the Asiatic product has not yet been determined. The plant grows well; is certainly as hardy as an orange tree and probably considerably more hardy. You can get tea seed from any one who is importing Japanese plants, but you would probably have to place an order in advance because there is no local demand which would warrant a dealer in keeping a supply of fresh tea seed, and unless the seed is fresh it is worthless.

Rooted Resistant Vines.

To the Editor:—Will you please give advice in setting out a vineyard? If I am able to buy the variety of grapes I wish to set out—already grafted on resistant stock—from nurserymen, would such vines bear the transplanting, and would I do as well as if I planted the resistant stock and grafted afterwards?—Planter, Sacramento.

Transplanting vines rooted on resistant roots is a perfectly satisfactory arrangement if well done, and some time is gained thereby. There is some difficulty, however, in getting such rooted vines upon the

root which you may think best and of the variety of fruit which you desire. This can be determined only by inquiry among reputable nurserymen. Of course, if you are in a region to which phylloxera has not yet attained, you should not plant rooted vines because of the danger of conveying the insect on the roots and thus introducing it. In such a case resistant cuttings should be taken, disinfected and rooted in the place where the planting is to be made. If the location where you propose to plant already has the phylloxera this consideration is, of course, absent.

Crude Oil for Gophers and Borers.

TO THE EDITOR:—Is crude petroleum safe to put on the roots of young apricot trees to keep the gophers off? It is good if it can be safely used. Also, is it good for spraying for the twig borers? If not, please give a wash for twig borers; a cold wash is preferred.—ORCHARDIST, Santa Clara.

Last year it seemed as though the application of crude petroleum to the roots of trees was safe and effective against root borers, but this year's observation seems to indicate that it is a pretty dangerous application and some fine trees have been killed. As for the use of crude petroleum against gophers we have little confidence in it. The animal can work below any point at which your oil is applied, if it is necessary for him to do so, and to attempt to oil the roots to any depth below the surface is not only expensive, but more dangerous than oiling near the surface for the borers. Your main effort should be to destroy the gophers rather than to make the trees distasteful to them.

We are not sure what you mean by the twig borer, unless it be the larva of the peach moth, and that insect is best controlled by the use of the lime, salt and sulphur wash just before the blossom buds open. We know no cold wash which is so effective.

Fertilizers for Wheat.

TO THE EDITOR:—With reference to the recent discussions regarding the falling off of the gluten content of California wheats, can you inform me if nitrates or phosphates are required to remedy the trouble; also if Thomas phosphate powder is an effective source of phosphoric acid when applied as a top dressing to wheat already planted?—CARMELITA.

The influence of fertilizers upon the content of the wheat kernel is one of the things to be tested in the comprehensive experimentation with wheat which are now being provided for by enterprising trade organizations and millers until the Legislature can take them up. We cannot tell in advance what will be the result, although there is a strong presumption that the amount of available plant food may be an important factor. Certainly the wise use of nitrates and phosphates is warranted by the increased yield which they will secure when moisture conditions are right. It is usual to use a superphosphate as a top dressing for growing wheat, because it is readily soluble. It is our opinion that better results can be had with Thomas phosphate powder by working into the soil with the drill or by the plowing, but that is a matter which needs demonstration under our conditions.

Movement of Lecanium Scales.

TO THE EDITOR:—Some time ago you stated in reference to scale on citrus trees that the best time to spray was in the rainy season, "as then the scale is on the move." Personally, although I have obeyed the injunction to watch and spray without ceasing, the only activity on the part of the soft and hard shell scale infesting my lemon trees appears to be reproductive. This is furtive but persistent. We have had more than our share of the recent wetting, but the scale sits as tight as barnacles on a ship's bottom. How and when may I look for the motion you speak of that I may assist it with a timely shower of soap and kerosene?—ORCHARDIST, Santa Barbara.

We do not recall just the statement you cite. The best time to spray for the lecanium group is when the young are all hatched from the eggs and before the older ones close down their hatches for the egg laying. This time when the greatest number can be hurt by the spray differs in different localities, but it is in the early part of the rainy season in most localities, that is in September and October. It is not very easy to catch a scale moving, as nothing but a young thing just from the egg puts in much time running about, but the older lecaniums, until they actually close down for the season, do move somewhat and are at least open to the penetration of the insecticide under the edges of their covers and are therefore vulnerable.

The Olive as a Business Proposition.

TO THE EDITOR:—I have ten acres of olives, for the most part good strong trees. They gave a good crop last year; this year they are short, as the crop is generally, I understand. The fruit is considerably affected with the dry rot. Will you advise me whether, as a business proposition, I should keep up the orchard?—OLIVE GROWER.

We do not care, as a rule, to advise people as to what they should do in individual cases, but rather to give them such light as we have which they can use in arriving at conclusions for themselves. We believe that the olive will certainly be profitable in places where the trees grow well and bear well, and the fact that so many are becoming weary of the fruit makes the prospect better for those who can rely upon their trees and upon their own intelligence and energy to treat them successfully. You must judge for yourself on the basis of your own experience whether it is likely that your trees will bear well in the future. The olive is somewhat famous for irregularity in bearing, but there may be good crops enough to make the plantation worth having. The price of olives is likely to be higher than lower, for the demand continues and not only has planting practically ceased, but the acreage is being reduced. The commercial standing of the fruit is, therefore, promising, but whether your trees are to reward you and whether the conditions are favorable in your locality you must determine according to your own best judgment.

Vine Pruning.

TO THE EDITOR:—Some weeks ago you gave a report of the behavior of certain grape vines taken, I think, from a French source, and mentioned varieties that, grown on rich soil and subjected to a good deal of moisture, sometimes ran abnormally to woody growth. I have had precisely that experience with about a hundred six-year-old vines, laying at the foot of a considerable watershed. The soil is a rich loam and adobe. This year there has been extravagant vegetation growth and no fruit to speak of, Muscats alone bearing a one-fourth crop. How ought these vines to be pruned this year to correct this tendency—very closely or the reverse?—ALAN OWEN, Santa Barbara.

It depends, of course, something on the variety, but the general course would be either to leave more spurs to the vine or to leave more buds to the cane by longer pruning, on vines which seem excessively strong. Give the vines more to do and they are less likely to be upset by exuberance. Your vines are probably having too good a time, with food and moisture in excess.

Pomelos—Ehrhorn.

TO THE EDITOR:—Are pomelos picked green and cured, like lemons, or are they allowed to ripen on the trees? What is the address of the successor to Mr. Alexander Craw?—H. M., San Luis Obispo.

Pomelos are handled like oranges and not like lemons. Mr. Ed. M. Ehrhorn is Mr. Craw's successor, and he occupies the same office in the Ferry building, foot of Market street, San Francisco.

Sheep Feeding.

TO THE EDITOR:—As a constant reader of the PACIFIC RURAL PRESS for many years, I would be pleased and profited to have some one of practical experience give through the columns of your paper their methods of feeding sheep for market, styles or packs, etc., to prevent waste of hay, and all details.—J. C. S., Healdsburg.

This would be an interesting subject for a letter for publication by some reader who finds his arrangements satisfactory, and we shall be glad to print such information. It is very timely for discussion of methods with sheep.

California Book on Wine Making.

TO THE EDITOR:—I wish to obtain a reliable work on the making of California wines and brandies.—SUBSCRIBER, Fresno county.

Probably the best single book is Husmann's "California Grape Growing and Wine Making." It will be found helpful to the small scale operator. More advanced discussions are found in the Viticultural Reports of the College of Agriculture at Berkeley. Husmann's book can be furnished from this office at $2 per copy, postpaid. It does not discuss brandy making.

Guinea Pigs and Rats.

TO THE EDITOR:—I am advised to buy guinea pigs to rid the ranch of rats. Will they do it, and if so, shall I have to buy something else to clear out the pigs?—F. B. M., Dos Palos.

The claim that guinea pigs would drive away rats is of remote origin, and even the ancient and honorable Encyclopedia Britannica says the claim seems to be without foundation. As for getting rid of the guineas, we should have no fear of that. The little chaps have been common as pets in California since the beginning and have escaped no doubt thousands of times, but have never established themselves. They are rather a delicate sort of a beastie.

WEATHER AND CROPS.

Report of the U. S. Weather Service for Week Ending November 28, 1904.

ALEXANDER MCADIE, Forecast Official and Section Director.

Sacramento Valley.

Cool, clear weather prevailed at the beginning of the week, with fogs in the mornings, and was followed by warmer, partly cloudy weather. Rain fell Saturday night in all sections. Light frosts caused no damage. The soil is in excellent condition, and plowing and seeding are progressing rapidly. The acreage of grain will probably be considerably larger than that of last season. Early sown grain looks well and is making splendid growth. Green feed of excellent quality is abundant and stock are in good condition. Olive picking is nearly completed in some sections; the crop is large and the quality good. Orange harvest is progressing and shipments are being made from Sacramento. Strawberries are plentiful.

Coast and Bay Sections.

Warm, clear weather prevailed most of the week, with cool nights and light frosts in some sections. Fogs were frequent in the coast districts. Rain fell Saturday night in the central and northern sections. The soil is generally in good condition, and plowing and seeding are progressing, though there are places in the north where the soil is too wet for cultivation and some few localities in the south where it has become too dry. Early sown grain is looking well and making good growth. A large acreage is being prepared for alfalfa in the vicinity of Hollister. Green feed is plentiful except in portions of the south, and stock are in good condition. Orchard work is well under way and spraying will commence soon. Cloverdale oranges are in good condition. Olives and walnuts are yielding fair crops.

San Joaquin Valley.

Clear weather, with warm days and cool nights, prevailed the past week, becoming cloudy Saturday, with rain in the extreme northern portion of the valley Saturday night. Farming operations are about at a standstill on account of lack of rain. The rain Saturday night will be very beneficial to the grass and grain, but was not sufficient to make good plowing. Olive picking is progressing. Green feed is plentiful, and stock of all kinds are healthy and in good condition. Orange picking is progressing rapidly and a good crop will be marketed. Irrigation water is plentiful. Light frosts are reported from some sections, but caused no damage.

Southern California.

Warm, clear weather continued during the week, with abnormally high temperature at the close. Except in places where irrigation water is plentiful, the drought is causing serious damage to growing crops, and conditions are very unfavorable for stock. The soil is too dry for cultivation and but little farm work has been done. The outlook for grain and hay is very poor. Oranges are coloring and picking is in progress. Regular shipments from Anaheim will commence December 1st. In most places the oranges are of good quality, but the yield is below average. Olive harvest continues.

LOS ANGELES SUMMARY.—Continued dry, warmer weather. Farmers are doing all they can to keep up farm work. Rain is needed for grazing lands and grain. Citrus trees are beginning to feel effects of long dry spell. Orange shipping getting brisk.

EUREKA SUMMARY.—Early sown oats and grass were never in better condition. Abundant feed for winter use. Some plowing and seeding except on bottom lands, where soil is too wet.

Rainfall and Temperature.

The following data for the week ending 5 A. M. Wednesday, November 30, 1904, are from official sources and are furnished by the United States Weather Bureau for the PACIFIC RURAL PRESS:

CALIFORNIA STATIONS.	Total Rainfall for the Week	Total Seasonal Rainfall to Date	Total Seasonal Rainfall Last Year to Same Date	Average Seasonal Rainfall to Date	Maximum Temperature for the week	Minimum Temperature for the week
Eureka	1.12	8.77	14.08	10.40	74	44
Red Bluff	1.24	10.71	8.45	5.37	66	38
Sacramento	1.26	7.59	3.56	3.80	66	42
San Francisco	.68	8.54	4.42	5.50	64	49
Fresno	.00	5.06	.68	1.79	74	38
Independence	.00	.45	.42	1.14	68	30
San Luis Obispo	T	4.71	.50	4.35	76	34
Los Angeles	.00	1.14	.43	2.36	90	52
San Diego	.00	.17	.07	1.13	82	52
Yuma	.00	.81	.66	1.22	86	46

THE FIELD.

Large Vines and No Potatoes.

By Wendell Paddock, Horticulturist of the Colorado Experiment Station at Fort Collins.

This bulletin contains a condensed account of our work with potato diseases, the most of which has appeared in Bulletins 70 and 91 by F. M. Rolfs of this station, and its purpose is to supply information to the increasing number of correspondents who are becoming interested in potato growing. It is addressed primarily to those farmers who live outside of the successful potato growing sections, but the best potato soils are by no means free from the troubles that are described below. By having a correct understanding of certain peculiar conditions of the potato plant, which has been ascribed to various causes, such as water, alkali, altitude, etc., it is possible that the most successful grower can modify his system of culture to advantage.

Most farmers who have tried to grow potatoes in this State and failed, or who have been only partially successful, will be familiar with the following conditions:

Good vines with no tubers or a cluster of small, worthless tubers; in many instances, even in the best potato soil, the plants fail to come up, or weak plants are produced, which die before the potatoes are mature, thus resulting in a poor stand; potato blight, or the dying of a portion or all of the vines; russetted and scabby potatoes; blight and scab also seen in the best potato districts; and finally, collar rot or black ring of the vine, at the surface of the ground.

Experiments have proven that any and all of these conditions can be produced by the action of a certain plant disease, and observations in many parts of the State show that this fungus is abundant, and is undoubtedly responsible for most of the lack of success in potato growing.

Nature of the Disease.—This fungus (Corticium vagum B. & C. var. Solani, Burt.) appears to grow naturally in this State, as it is found in the remote and newer parts, and it also attacks a number of plants other than the potato, both cultivated and wild. After the soil has become infected the fungus persists for a long time.

If the fungus is not already present, the soil will soon become infected after potatoes have been grown. This is true for the reason that it is difficult to find a sack of potatoes free from all traces of the disease. It lives over winter in the cracks of rough and russeted potatoes and in the ulcers of scab, and also in what appears to be patches of dirt which stick closely to the surface of the potato. By looking closely at these dirt-like appearing objects, which are well shown in Fig. 2, Plate I, it will be seen that they are not composed of ordinary soil. In fact, they are made up of the closely interwoven root-like organs of the fungus.

This tiny plant also produces an abundance of seed-like bodies or spores which help to spread it. They are borne only on green potato vines and just above the surface of the ground. Here a thin, delicate layer is formed that looks like a slight deposit of alkali, and the spores are borne on the tips of the threads of which it is composed.

A Poor Stand of Potatoes.—When diseased potatoes are used for seed, or when clean potatoes are planted in infected soil, the fungus starts into growth with the young potato plant. The tender shoots are often attacked, with the result shown in Plate II. On the right are two shoots, which were rooted off by the fungus before they reached the surface of the ground. This illustrates how a poor stand of potatoes is often brought about. The other two were badly injured and might have become mature plants, but affected with the familiar collar rot or black ring.

Vines and No Tubers.—The most damage is done, however, by cutting off the tuber stems, and this portion of the potato plant is especially liable to attack. These stems are often cut off as fast as they grow out, thus leaving no place on which tubers may form. But in some instances a cluster of small or "little potatoes" form around the main stem, seemingly the result of girdling by the fungus.

Potato Scab.—The potato tubers are often made rough and scabby by the growth of the disease on their surfaces. (Plate I, Fig. 3.) All gradations of these injuries may be found, from a rough or russeted appearance to deep scabs or ulcers that greatly injure the appearance of the potato. Singularly enough, scab is more common in the best potato soil than it is in localities where the crop is precarious. Sandy or gravelly soils, when first brought under cultivation, often give a large per cent of scabby potatoes, but after one or more crops of alfalfa have been plowed under, this tendency is partially corrected.

Potato Blight.—Potato blight, or the dying of the leaves and vines before the crop is mature, is commonly thought to be entirely due to diseases which attack the top of the potato plant. We have not found it so in Colorado. Spraying experiments with Bordeaux mixture did not materially lessen the blight, and the microscopic plants which cause these leaf diseases are not commonly found associated with this trouble. We conclude, therefore, that the premature dying of the potato vines is usually an evidence that the underground parts have been severely injured by the fungus in question.

Running Out.—The running out of potatoes, as it is called when the tubers become pointed or much elongated, appears also to be associated with attacks of this fungus. But just what the relation is between the two has not yet been determined.

Treating the Seed.—At first thought it would appear to be a simple matter to combat this disease by treating the seed with formalin or corrosive sublimate. In fact, some of our experiments with treated seed have shown decided gains, but others have given a loss. The results of this season are again negative, so it is doubtful if the seed treatment can be made to pay. This is true for the reason that most Colorado soils are thoroughly infected with the fungus and the treatment usually delays the sprouting of the seed and consequently injures the plant so that it does not yield as well as untreated seed.

Seed Selection.—Better results have been secured by selecting smooth, round seed that is entirely free from disease. Such potatoes are not only free from disease, but the chances are that they were grown on vines that were not seriously affected by the fungus as run out potatoes usually occur on diseased vines. We would expect such seed to show a certain degree of resistance to the disease.

Disease Resistant Varieties.—The only prospect that we now have of ever overcoming this disease beyond what can be done by improved methods of culture, is to select seed from the healthiest plants that produce good shaped tubers, and thus gradually breed up a resistant strain. Last year over eighty varieties of potatoes were grown in the College garden in soil that was known to be badly diseased. Only twenty kinds out of this number were saved for further testing; the rest produced only a few small, misshapen tubers, and many of the vines bore none at all. This year the list has been still further cut down, though a few varieties yielded well. These

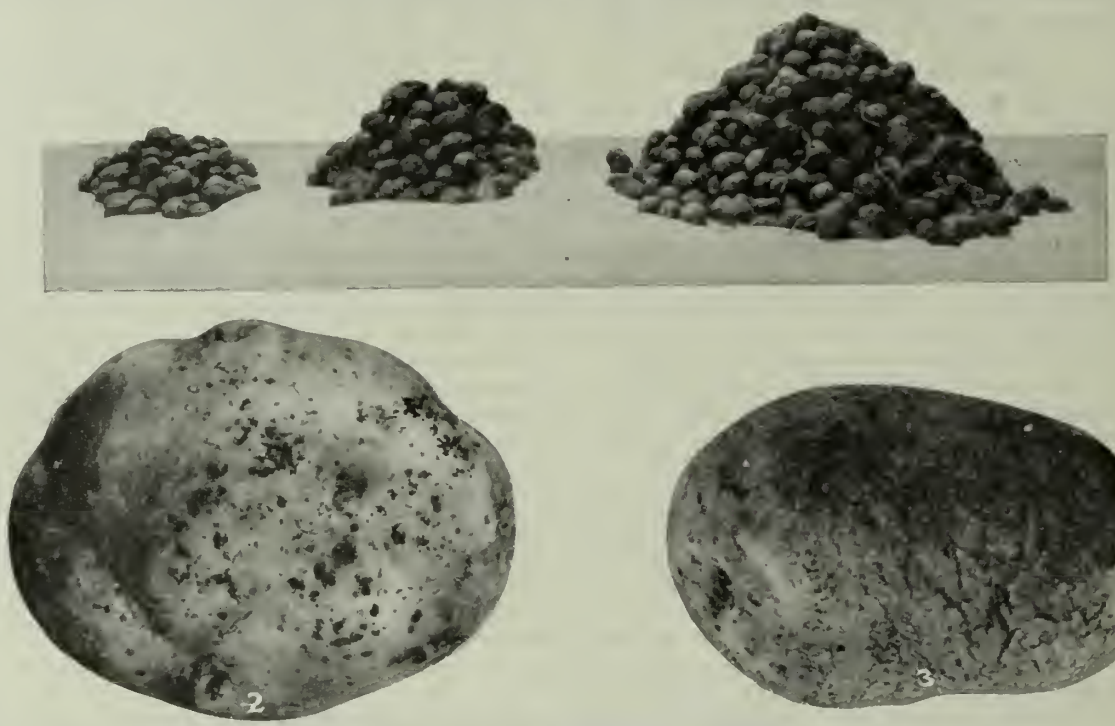


PLATE I.—Manifestations of Potato Disease.



PLATE II.—Work of the Disease Upon Young Plants and Roots.

were all dug by hand, and the hills that produced the best tubers have been saved for further testing. We hope in time to build up a strain of potatoes that will resist the attacks of this fungus by selecting from individual hills that are the least attacked by disease.

Not many potato growers can afford the time to follow up experiments of this kind, but a less rigid method of selection could be practiced by all. The following is quoted from Bulletin 91 of this station:

"Another method which gives evidence of considerable practical value is to set aside each year five or ten acres of land for the growing of seed potatoes. The soil of such tract ought to be fertile and free from the various diseases which attack the potato plant. The tubers used in planting the seed tract are carefully selected each year from the seed plat of the previous year. The surplus seed is used for planting the general crop, and in this way a strain of pedigree potatoes is gradually developed."

Culture. — The best potato soil is a sandy or gravelly loam which contains an abundance of vegetable matter, and which is well underdrained. In the Greely district the soil will average about 4 feet deep. Below this is an immense layer of gravel, which insures perfect drainage. Vegetable matter is secured by plowing under alfalfa sod. Alfalfa is grown two years, then turned under in the spring and planted to potatoes. Two crops of potatoes are grown in succession, then wheat is sown and the land again seeded to alfalfa, thus making a five-year rotation. The second crop of potatoes, however, is rarely as good as the first, probably because of the increase of the fungus in the soil, and in most localities but one crop of potatoes should enter into the rotation system.

A heavy alkaline soil, that has poor underdrainage, furnishes an ideal condition for the growth of this plant disease, and it is in such soils that potato failures are most frequent. But poor underdrainage in any soil is conducive to its growth. It will be seen, then, that cultivation and irrigation must be important factors in controlling the disease. Most people who attempt to grow potatoes make the mistake of using more water than is necessary for the best growth of the plants. The rows should be comparatively short, so that part of the ground will not need to be over-watered. The seed should be planted about 4 inches deep in rows 38 to 40 inches apart. The furrows should be about 5 inches deep for the first irrigation, and with subsequent irrigations they should be increased in depth. The idea is to make the furrows deep enough to supply sufficient moisture to the roots without saturating the upper portion of the ridge where the tubers form. Cultivation should follow as soon after as the ground is in condition to work. The condition of the soil and plants should always govern the amount and the frequency that water is applied.

After all has been done in the way of culture, seed selection and a long rotation of crops, the vines and weeds should be collected and burned each season after the potatoes have been dug. This will destroy a great deal of the fungus that would infect other fields, as the vines are scattered by various means.

HORTICULTURE.

The Peach as a Commercial Crop.

By Mr. W. T. Kirkman of Merced at the University Farmers' Institute at Ceres.

There is to my mind no fruit that promises so much to the colonist and small farmer of the San Joaquin valley as the peach. The prophesy of the "knowing ones" of fifteen years ago, that peach growing was too easy and that it would be overdone, has not yet materialized. With climate and soil unequaled for its production and curing we have an increasing demand from our less favored sister States and the foreign countries. Our peaches in their preserved state—either dried or canned—have become a staple and necessary article of food. In this writing I shall confine my thoughts to the peach as a dried product.

Soils for the Peach.—The light sandy loam soils which predominate from near Merced on the south and extend to within a few miles of Stockton on the north for the most part comprise ideal peach land. These lighter soils which have long since refused to reward the grain farmer with heavy crops for his shallow cultivation are wonderfully productive of fruit, and especially the peach. In the neighborhood of Atwater I have known, within the past seventeen years, some of the most unpromising sand hills to be converted into profitable orchards. I would like to refer to several individual instances that I have in mind, but will take your time for only one.

An Impressive Instance.—George Foster, an Englishman, came to Atwater about twelve years ago. He had quite a family and but very little means, and to make matters worse, as it seemed to his newly acquired neighbors, he bought and settled on one of the poorest sand-blow twenty-acre tracts in the community. Mr. Foster concluded to plant his place as fast as he could to drying peaches. There was not much here to warrant such a venture at that time. With the help of his willing and industrious children Mr. Foster, though a cripple himself, managed to make his payments, and within a few years had the larger part of his land covered with a bearing orchard. More than one-half of this orchard was above the ditch and a windmill pump gave it all the water it received. Battling as he did against sand blows and scarcity of water, he brought this orchard into profitable bearing, and it stands as a monument to the productiveness of our lighter soils when fostered by a man like Foster.

The Yield.—Sixteen tons of dried fruit was the crop of 1903, with about fifteen acres full bearing. The yield has averaged a ton per acre for a number of years. One ton is about the normal yield for this section. I refer to Atwater frequently because the dried peach industry is now well established here, and, furthermore, because much of the land farther north is similar to it.

I know of orchards on creek bank lands that have approached near the two-ton mark this season, but these are exceptional.

If the newcomer who settles here would take the time to investigate what is being done by practical fruit growers, instead of listening to untried theories, and plant in a commercial way only a well-established staple fruit which he can see is adapted to conditions surrounding him and which will be used as a necessity and not alone as a luxury, he would certainly be building on a safer basis.

Lights That Have Failed.—During my career in California I have witnessed the bursting of many fruit bubbles. I have seen many orchards and vineyards converted into stove wood that had paid no tribute except to the nurseryman, and this is no reflection upon this much-abused individual, because we all naturally will try to produce what the people will buy and pay a good price for. But I have not found any one who wanted to exterminate a thrifty peach orchard of Muir, Lowell, Susquehanna and Late Crawford.

If I were tempted by reports of phenomenal profits of some untried fruit to plant it in a commercial way I would plant it jointly with peaches, alternating one with the other. I would then have a chance to discard the one for the other in time to make myself safe in the investment.

For commercial purposes the peach should be planted in sufficient area to make it an inducement for buyers to come and take it. The man who has ten or twenty tons is sought farther for than he who has only a few hundred pounds. Dried peaches are a staple article and require no peddling or shipping to the evasive commission man, but the buyer will come to you, furnish you with sack and give you a check for the lot.

A New Gooseberry.

Mr. Albert F. Etter of Ettersburg, Humboldt county, has produced a gooseberry that is far removed from the ordinary gooseberry. In the first place Mr. Etter has reduced the number of seeds and increased the pulp, so that on cooking the fruit the result is very different than with the common varieties. The skin is less disposed to split and the flavor is greatly improved.

At the rooms of the California State Board of Trade, Mr. Etter has installed, as a part of the permanent exhibit, several jars of the new gooseberry.

THE POULTRY YARD.

Hints for Profit.

To the Editor:—Never did a season open more auspiciously for the poultry raiser than this of 1904-05. The wonderful fall weather that has fallen to our lot bids fair to be prolonged into the winter months. It is time that the early hatches were out, to be followed by several others. With this mild weather, with the abundance of sunlight and the great variety of green feed for the chicks, they will, with proper feeding, grow rapidly. The writer's young chicks have made an unprecedented growth, owing, in great measure, to the system of brooding and feeding adopted, and to the propitious season.

From this time forward incubators may well be crowded to their utmost capacity. They who have already out a hatch or two are fortunate. Success may attend the hatching of chickens as late as May, but the earlier hatches seem to do better—make more rapid growth and, of course, mature earlier. Yet, the person who hatches at two or more seasons of the year is the one who keeps his stock in good egg-laying condition.

To be sure, if every one who raises poultry obtained a liberal supply of eggs during the late fall and winter months, the high prices which prevail during the season named might shade a trifle, but not a great deal. How to obtain, at this time, a fine supply of eggs is the conundrum which we are trying to solve. It is worth while to give the matter thought and intelligent action.

Poultry Houses.—At the risk of reiteration the writer gives the plan for hen houses he several years ago adopted. They give perfect satisfaction. Sickness of any kind among the flock is exceedingly rare —in fact, is never seen. The house is constructed of second grade redwood lumber—sides and roof. It is 7 feet high in front (the north side) and 4 feet high at the rear. It is 12 feet wide and 14 or 16 feet long, as one may wish. Two-thirds of the interior is devoted to the roosting room and the balance is a scratching shed, in which several inches of straw is kept. The partition between the two compartments is of 2-inch mesh wire netting, over which is suspended, in windy and stormy weather, and during the coldest nights of winter, a curtain made of common burlap. The entrance to the scratching shed is open. All cracks are battened and drafts are guarded against. The idea is to keep the fowls comfortable, at the same time allowing all the fresh air possible. The same plan as regards the liberal supply of fresh air meets with success, whether fowls are very young or full grown.

The World's Fair.—The exhibit of poultry at the World's Fair at St. Louis demonstrates the great and growing interest the people of this country take in this industry. It was the largest, most complete, showing yet made. California is so far distant from the Middle West, and transportation and other expenses are so great, that many of our poultrymen were deterred from sending on exhibits. Yet the time is rapidly approaching when we of California will make a rare showing of birds of all ages, in open competition with the entire country and of the world as well. There is nothing a Californian will not claim —and he generally "gets there."

A poultry writer says of the World's Fair poultry show at St. Louis: "It has gone into history as the greatest exhibit of the kind held to date in this or any other country. It was the greatest in the number of entries—more than 9000—and the number of birds on exhibition—about 72,000. It was the greatest in the number of varieties shown, including all the standard and some of the non-standard varieties, and the greatest in size of classes, ranging from single pairs in the odds and ends up to the heretofore unapproached entry of 808 White Wyandottes. It was the greatest in area covered by the exhibits. It was also greatest in attendance, the visitors to the poultry show averaging more than 20,000 daily. It was the greatest in number of exhibitors—nearly 5000—and in attendance of fanciers from all parts of the United States and Canada. It was greatest, also, in the number of premiums offered."

Breeding.—Utility, rather than fine feathers, is demanded of fowls by the average poultryman of California. Yet, the two points combined make the perfect bird. But line breeding, close breeding, in-breeding, to produce desired results, are not and will not be attended with best results. Californians, as a rule, strive to keep fowls which will bring in the greatest monetary returns. Yet, too, as a rule, we cannot be overcareful to keep our flocks up to the high standard we ought if we expect to garner the very best returns.

Food or Tonic.—Shall we feed tonics and medicinal foods to our fowls? This is the practice of many persons, else such large quantities of these compounds would not be placed upon the market. We opine that many purchase these goods without well considering if they are actually necessary, or if their use is attended with profit. A writer in one of the late poultry magazines says: "Tonics and medicinal foods, while they will undoubtedly help fowls of impaired constitutions, are not desirable, since, if we are to have and keep healthy fowls, we must not breed from birds that require constant dosing. Healthy fowls will do their best without the use of condiments. Feeding condition powders and the like to healthy birds that are already doing all that should be expected of them is like whipping up a horse that is doing his best to pull a heavy load, and is bound to bring about discouraging results. The less dosing a fowl gets the better."

If bad results are not at once seen from high pressure feeding, they will surely follow if such feeding is continued for any length of time. Notably is this the case with eggs from fowls so fed when placed in the incubator. The percentage of fertile eggs is much smaller than it should be; and, again, too large a number of the young chicks will droop and die. A rational, natural method of caring for fowls of all ages will be attended with the best results.

Alfalfa.—How about that field of alfalfa you were to sow this fall for the benefit of your fowls? If the seed was put in the ground a month or two ago the young plants are now making a good showing. If seeding is to be deferred until after danger from frosts is over it will be in April, at least, when the work is done. Fall seeding is attended with excellent results. But, early or late, one should have a good-sized patch of this succulent, nutritious grass.

All over this broad land of ours there is an ever-increasing interest taken in the cultivation of this popular forage plant. Even in many States where the climate is so very cold in the winter as to have in the past precluded the hope of successfully seeding, excellent results have of late been attained. Alfalfa is at home in our favored State. If one is so disposed he may gain much information on the subject of seeding and growing of alfalfa from the farmers' bulletins issued by the Department of Agriculture, Washington, D. C., and which may be obtained for the asking.

Napa. A. Warren Robinson.

Agricultural Review.

Butte.

OLIVES TO BE PROUD OF. — Gridley Herald: W. S. Harkey, who lives 4 miles south of town, has a ranch of 800 acres that produces all kinds of stuff, but the thing of which that gentleman is the most proud is his crop of olives. He has two trees of a variety that grow to enormous size. They have a large crop each year, and the largest of the berries are 4 inches in circumference. Major Biggs of this place also has a few trees of a similar variety which grow equally large.

Colusa.

SHEEP KILLED BY DOGS.—Sun: The sheep-killing dogs have been at work again. Monday night seven or more of these worthless curs attacked a band of sheep at the Merrill ranch, and before Clarence Merrill got out among them early Tuesday morning with his rifle and succeeded in killing four of the dogs they had killed twenty-two head and badly crippled several more. This makes four or five raids these dogs have made on Mr. Merrill's sheep. Just after harvest this year Mr. Merrill had 212 fine sheep in his band. The dogs in their attacks have killed all but 114. During the attack Mr. Merrill has killed six or eight of the dogs.

Kern.

FIVE ORANGES WEIGH SEVEN POUNDS. — Bakersfield Echo: S. W. Wible brought some large Washington Navel oranges in from the Drury addition. Five weigh seven pounds. One specimen weighs two and one-half pounds and measures 18 inches in circumference.

Monterey.

EXPERIMENT AT SPRECKELS.—Salinas Index: There is an experiment being made at the Spreckels factory which, if successful, may revolutionize matters there. This is the converting of sugar cane into sugar. For some years past the Spreckels Sugar Company's plantations in the Hawaiian islands have supplied more cane than the company could conveniently handle, and the surplus cane has been shipped to San Francisco to go through the sugar making process there. Now the San Francisco mills have more cane than they can utilize and an effort is being made to see what success will attend making cane sugar at Spreckels. If it can be converted into sugar at a reasonable profit the prospects are favorable for the big mill to be run the entire year, working beets during the regular season and cane the remainder of the time.

Napa.

"BLACK LEG."—Register: Of the large herd of cows owned by the State and kept on the Napa Asylum farm, three died the other day, and Dr. Stone at once put himself in communication with the State Veterinary Surgeon. The last-named official said "black leg" was responsible for the fatality. The stock was promptly quarantined, and, with vaccination and proper care, it is believed the disease will be stamped out without further loss.

Placer.

EARLY CHERRIES.—Auburn Republican, Nov. 24: George Cadman of Long Valley on Tuesday shipped a small box of cherries to San Francisco. Of course, they were not in a commercial package. The early rain and warm weather following it were the cause of the ripening of the fruit at this time.

A BIG ORANGE.—Sacramento Union: L. E. Vandercook of this city is the proud owner of a Washington Navel orange that weighs twenty-eight ounces and measures 15¾ inches in circumference. The orange was grown on the Vandercook-Kayo orange ranch, near Penryn, Placer county.

Riverside.

HEAVY BARLEY ACREAGE.—Enterprise: F. C. Payton and Frank Clapp will seed 1000 acres of the Yorba Grant to barley this season. Payton has also leased 500 acres from Clapp, which he will seed to barley.

San Benito.

MUSTARD.—Hollister Free Lance: A San Jose seed firm has had an agent in the San Juan valley the past week interesting the farmers of that section in mustard culture. The firm is willing to contract for all the mustard raised at $2.25 per hundred, and estimates the yield at a ton per acre. Several farmers are contemplating sowing twenty-five or fifty acres as an experiment. There is no question of the yield in that fertile valley, as wild mustard yields prolifically. If the farmers of the valley do not take up the project, the firm proposes next season to sow to mustard all the land they may be able to rent.

San Bernardino.

REDLANDS GROWERS FAVOR UNIFORM SCALE.—Redlands Facts, Nov. 26: A full representation of the orange growers of Redlands was present at a business meeting held this morning for the purpose of placing a uniform price on the sale of this season's orange crop. For the first of the Redlands and vicinity's fancy orange crop, it was decided by the growers to ask a price of $2 a box shipped f. o. b. For choice fruit the price will be $1.75. The prices named in the foregoing will prevail for a time at least and perhaps throughout the entire season. In case it is decided to make a change, another meeting will be called and any proposed reduction or increase will be discussed before being put into effect. "A schedule of prices was made to prevent the cutting of rates," said A. Gregory, when speaking of the arrangement this afternoon. "The growers are all desirous of working in unison and, as a result, the meeting was called and a stated price made on the better grades of fruit."

Santa Clara.

COMMISSION MEN LOSE. — Judge Rhodes of San Jose has decided the case of William F. Murphy vs. Campodonico & Burns of San Francisco in favor of the plaintiff. Murphy is the assignee of Alonzo Withers, Amelia Withers, Nicolas Sanseri and Antonio Vainesi, who in the fall of 1903 delivered 6223 boxes of tomatoes to Campodonico & Burns at the San Jose depot for shipment to the defendants at San Francisco. In accordance with the contract made between the respective parties, the purchase price agreed upon was 27½c per box. Campodonico & Burns had charge of the tomatoes from San Jose to San Francisco, and it was provided in the contract that Withers and his associates should deliver the tomatoes free on board the cars at San Jose, all the goods to be sound and merchantable and of No. 1 quality on arrival at San Francisco. The commission merchants sold 1031 boxes of tomatoes at 20c a box on commission and dumped 324 boxes in San Francisco bay. Plaintiff claimed that the defendants had no right to sell the tomatoes on commission without the express consent of the producers, or dump any of the tomatoes without first notifying the shippers of the rejection of the tomatoes. This contention was upheld by the court and judgment was rendered in plaintiff's favor for the entire sum sued for.

Santa Cruz.

SUGAR BEETS.—Watsonville Pajaronian, Nov. 24: The beet growers of Pajaro valley had a pay day early this week. They received $30,000, representing the delivery for the month of October. Beet hauling will be about finished in the valley to-morrow night and the growers will have another tidy sum coming as the result of hauling since November 1st, a period during which the average of daily delivery has been greater than during October. The season just closing has been an excellent one from the grower's point of view. The average tonnage has been larger than usual, and the weather has been such as would not interfere with steady delivery. A new system of getting the dirt percentage has been in use, and while it has not decreased the average percentage as compared with some other years, good weather considered, it proves more satisfactory on account of the larger number of samples washed and the greater quantity of beets used in sampling.

MEXICAN BARLEY.—Charles Fowler of Springfield district brought to the office of R. P. Quinn a fine sample of black barley from seed procured in Mexico. It has a full-headed stalk and the kernels are plump and brownish black in color.

CLOSE CALL.—James W. Hetger of Prunedale had a close call for his life. His hired man attempted to knock a hog in the head with an axe, but the axe slipped from the man's hand, going through the air for about 15 feet and striking Mr. Hetger on the head. The farmer was knocked down and rendered unconscious for a time.

Sonoma

THE O. K. HATCHERY.—Windsor Herald: The hatchery owned and operated by Luther Bell has been named the O. K. Hatchery. Mr. Bell made some of the most successful hatches of the year last season, his work for 1904 averaging a fraction under 90%, the season's hatch being 9000 chicks. This coming season he expects to double the capacity of his plant, making 5000 eggs capacity. His incubator house is built expressly for hatching. It has four vents at the base of the walls. The outlet of these vents is between two studding and the walls of the building, and is regulated by slides near the floor. Air is taken in at each gable above the ceiling and an adjustable opening admits it to the incubator room proper. It is so arranged that the operator can adjust the flow of air to suit his needs.

SIRE OF LOU DILLON GOES EAST.—Santa Rosa Press-Democrat: Sidney Dillon, the sire of California's famous queen of the turf, Lou Dillon, whose record is 2:01 without shield and 1:58½ with shield, was shipped East to be sold at the Old Glory sale to be held in New York. The noble animal was quartered in a luxurious coach and was accompanied by Frank Turner, superintendent of the Santa Rosa Stock Farm, who will care for him on the Eastern journey. Sidney Dillon is 12 years old and is considered to be just in his prime. His most famous offspring, Lou Dillon, is 6 years old. Others of his progeny have given and are giving promise of becoming famous. Many people are interested in knowing what price he will fetch at the coming sale. The estimates range from $25,000 upwards. The transportation charge for taking the animal to New York is $850. [A dispatch announced that the animal was sold for $9000 on the third bid. Sterling A. Holt of Indianapolis was the buyer].

FINE CROP OF WALNUTS.—Kopf & Donovan are handling the entire crop of fine walnuts from the large 60-acre orchard owned by Mrs. Vrooman. The yield this year is over 200 sacks. The variety is the Franquette and the quality cannot be surpassed. The nuts were cured without the aid of sulphur. There is a ready sale for the nuts and orders are coming in fast for them.

PULLING UP ORCHARDS TO GROW HOPS. — Santa Rosa Republican: This season promises to be a record breaker for planting hops in Sonoma county. In many sections of the county valuable orchards are being destroyed to make room for hop fields. The lower end of the Russian river valley is the scene of greatest activity, the land of that vicinity being exceptionally suited to hop culture. There thriving orchards are being uprooted and the land is being prepared for the reception of the vines which will take the place of the trees. There are many hundreds of acres in the county which the owners expected to plant to vines last year, but were prevented by reason of the excessive rainfall. This kept the ground so moist that it could not be cultivated until too late in the spring to insure any results.

Sutter.

TONS OF SWEETS.—Yuba City Farmer: J. D. Baker, the well-known bee man of West Butte, is shipping his crop of honey. It is being sent to Chicago. It is strained and packed in cases, 120 pounds to the case. There are 220 cases, making about eighteen tons in all. It is understood the price received is 4 cents a pound.

Tehama

LAMBS DISAPPEAR.—Red Bluff special to Sacramento Bee: The mysterious disappearance of 152 lambs belonging to Joseph Frates, who was driving the bunch to Stockton for stock purposes, is agitating stockmen of this county. The officers of the law are wondering what has become of the animals which could hardly have gone astray without some kind of human aid. The lambs were driven down to Tehama and camped on the Kimball plains for the night. That was the last seen of them. No count was taken of the bunch, which included nearly 2000 lambs, until Marysville was reached, when they were discovered to be 152 short. There is no clue to the missing animals or the thieves.

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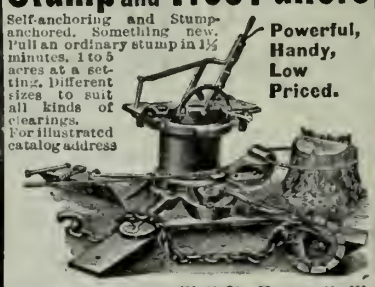
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For Feeding to All Kinds of STOCK and POULTRY

BETTER THAN BRAN, SHORTS, MIDDLINGS OR OIL CAKE MEAL AND MUCH CHEAPER

A PURE UNADULTERATED PRODUCT OF CALIFORNIA ALFALFA ESPECIALLY CURED AND TREATED

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The best feed for animals intended for the show ring



A PURE PROTEIN FEED ESPECIALLY ADAPTED TO BE FED TO ALL KINDS OF GROWING STOCK

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California Stock Food Company

FRESNO, CALIFORNIA

OFFICE: 121 Forsyth Building

The Home Circle.

Modest Susan.

Sweet Susan, modest lass was she as any
in the land,
And Timothy was brave and bold, though
but a farmer's hand:
Together worked they in the field, for she
was stout of limb,
Together weeded, lived and dug, sweet
Susan and brave Tim.

When from the ground the potatoes
brown they rescued with a will,
Tim's passion grew to utterance, and he
knelt there on a hill;
"Dear Susan, won't you—" Susan turned
with wonder and surprise:
"Hush, Timothy; how dare you—right
before so many eyes!"

Through cornstalks bent with fruitage,
cool the crisping breeze did blow;
They reaped the golden harvest now, to-
gether, row by row,
From early morn till eve, when bright
and full the moon appears.
"Dear Susan—" "Hush!" said she.
"Don't speak before these listen-
ing ears!"

To meeting Sunday evening oft together
they did ride,
Yet she sat very straight, indeed, and
kept the farther side.
"Dear Susan, please be—" Upward then
in fright sweet Susan sprung:
"Hush! Not another word to-night—
this buggy has a tongue!"

Then Tim grew weary waiting, and no
more "Dear Susan" said;
He wooed another maiden; 't was "Dear
Emeline" instead.
She made no word of protest when he
murmured: "Be mine own?"
And now they hoe together—and poor
Susan hoes alone.

—Harriet Hershey, in N. Y. Tribune.

Just a Picture.

Just a picture of the old home,
And the plum trees growing near;
Just a picture in the autumn,
When the leaves are turning sere.

Just a picture of the old home,
That the shade trees screen from view;
Just the same dear old homestead
That my happy childhood knew.

Just a picture of the old home—
Turn my thoughts to years gone by,
And the dear ones long departed—
I can scarce suppress a sigh.

Just a picture brings to mem'ry
A dear, wrinkled, kind old face;
Just a picture tells me gently
There are none for Grandma's place.

—W. E. Van Studdeford.

A Prairie Paradise.

When we returned from our honeymoon, we went at once to the mid-prairie town selected for our home. The place had "boomed," failed, and on the support of two wheat crops, partly recovered. The boom houses on the additions were unoccupied and could be bought for a trifle, compared with their original cost. We bought a lot and prepared to move one of the dwellings on it.

We selected a five-roomed, Colonial affair with leaded glass in the front hall, and soft pine floor in the kitchen. "But it has possibilities," declared Caroline. "We must build a porch and put in a furnace and—"

"Let's move in first," I suggested. I only regretted that the condition of my purse would not allow me to buy the two vacant lots on the some-time-to-be shady side of the choice street of the town, instead of one.

"We will buy the other when we can," declared Caroline, confidently, "nobody will want it now."

So we filled and graded and sodded, making rapid progress toward home-likeness, and it was with considerable complacency that we noted the admiring glances of the townspeople as they drove by evenings. Buggy-riding takes the place of parks, seashore and mountain climbs for dwellers on the level lands. There is nothing else for them to do.

We planned a huge canna bed for the center of the other lot, and had made a long list of shrubs and hardy plants to be ordered for its adornment.

And then came trouble.

I kept it from Caroline as long as I could, but one day she met me on the half-grassed lawn, where blue-grass struggled with pusley, cockle burs and ambitious sunflowers, her face showing signs of deep grief.

"Oh, John," she began, "what do you think—Gobsons have—"

"Yes, I knew it last week."

"That they bought the other lot?"

"Yes."

"And can't we get it?"

"I've tried—he don't want to sell it."

Her pink apron went over her head and she fled to the house.

Gobsons were common—no denying that. Not two square feet of grass grew on the lawn at their present home on Harrison boulevard. Western towns do not have streets, all are boulevards and avenues. Boxes, barrels and trash littered the back yard.

"And they run to castor beans," broke out Caroline when I overtook her. "Just think of that forest of monstrosities along their sidewalk!" But they've got money, and Gobson told me they intended to fix up the lot in fine shape.

Caroline was not convinced and refused to look southward across the vacant lot all the remainder of the day.

Gobson also got a boom house—one of the rambling, dry-goods box style—and he set it close to the northern edge of his lot, bringing it very near to our own lot. He covered the lawn with the buffalo grass of the Western prairies, because that wiry gray growth would survive the hot summer months without sprinkling.

Caroline watched it all dismally. One day she broke out crying. "Oh, John," she muttered, "castor beans—I saw them—a hundred are coming up along the line."

"They'll hide some of the ugliness, anyhow," I suggested, but that did not soothe her.

A firm-set purpose marked her features the remainder of the day, and I was not much surprised when, late in the evening, she slipped out through the kitchen and into the back yard. I followed her. She seized a hoe from its accustomed place on the grape arbor, and stealthily took her way amid the sprouting catalpas and tree honeysuckles.

"Caroline!"

She started guiltily at the sound of my voice.

"What are you going to do?"

"Dig 'em up," fiercely. "No one has a right to inflict castor beans on a front yard."

It was time to act firmly, and I gave her a stern lesson on the prerogative of property owners, and then we walked back to the house, arm in arm.

The castor beans grew and grew and grew. By midsummer they were seven feet high—and still growing. It was hideous—desperately so—but perhaps no worse than the cinder walks and patches of jimson weed that lay beyond. Gobson put up the hitching-posts, iron effigies of red-clothed negro boys holding the hitching rings in outstretched hands. Caroline shuddered at the sight.

Our neighbor on the north was not ambitious. His lawn was without shrub or flower, but its smooth-shaven greenness was a delight to the eye.

As for our own lawn, the sunflowers had been swept away and blue-grass and white clover were making a pretty growth. A snowball and several altheas in constrasting colors promised well for next year, while the canna bed was showing brilliant spikes above the rich tropical foliage. All the time the castor beans grew and grew aggressively.

The fierce hot winds had withered the caladiums a little, and the sweet-pea vines were turning brown. The young rose bushes, so glorious in May, showed signs of a struggle, and summer grass was increasing on the lawn. The blue-grass could not withstand the glistering blaze of an unclouded sky. One white birch was dead, another dying. The one thing in the landscape that flourished and bade the elements defiance was—Gobson's line of castor beans.

Caroline worried a great deal about the flowers and, though perhaps I should not tell it, neglected her housekeeping duties in order to give them watchful care. And then Mrs. Gobson gave a party and did not invite her!

On the day of the tea-party I went out on the prairie fifteen miles to see a ranchman on a business matter for an Eastern client. Caroline stood on the porch and waved cheerily to me as I drove past the house. The undertaker, who also rented chairs and tables for parties, was at the time carrying supplies for the reception into the dwelling of our neighbors. I remember that I noticed the contrasting green of the castor bean leaves and the grayish brown of the lawn, and wondered if an artist would not find a subject for an impressionist picture in the ensemble. I turned in the buggy as I reached the limit of vision and looked again at the promising little home, with its flowers and shrubs and start of trees. It was worth looking at. "A good deal can be accomplished in this country," I mused, touching up the team, "if one knows how to do it."

It was different when I returned.

During the afternoon a storm, one of those fierce prairie terrors, swept over the country. It was so dark at the ranch that lamps were lighted. Hail and wind accompanied the clouds and sheets of rain made the level plain a lake. It was long after night when I drove into town and turned down South Empire avenue, a little anxious for the safety of our lawn decorations. A block from home a watchman stopped my horses. "Your wife is here at a neighbor's," he said, "and wishes you would come in at once."

"Is she hurt?" I gasped, and, without waiting a reply, hurried up the lawn to the house.

The door opened, and in the half-lighted hall Caroline met me, clasping her arms around my neck and burying her face on my shoulder.

Beyond, in the illumination of the parlor, stood a dozen people, and among them—the Gobsons.

"What is the matter?" I asked puzzled.

"Well, sir," said Gobson, coming forward and frankly extending his hand, "about everything that could be the matter and leave us alive and well. There's been a twister."

"And it's gone—and he carried me across the lawn!" incoherently exclaimed Caroline, again hiding her face.

Gobson and the others laughed heartily.

"I tell you how it was," went on Gobson. "About three o'clock the storm came up and it looked mighty bad. We Westerners know what to expect, and the folks at the party went home. Your wife there didn't seem to understand the danger, and when the most serious part came and I'd sent the folks to the cellar, what did I see but her out there in the yard trying to cover up the posey bed."

"I was afraid the hail would hurt the coleus," put in Caroline.

"I called to her, but she didn't seem to want to hear me—"

Caroline tightened her arms a little—I understood.

"—And there wasn't any time to lose. I saw a funnel-shaped cloud in the Southwest and I just hustled across the yard, picked her up and carried her to our cellar."

Caroline's arms tightened again.

"That's about all. We stayed there until it was over and then came out—and the houses are gone with a lot of others—but no one is seriously hurt."

He had told the truth. The day had been a serious one for that part of the town, and our block was visited by the cyclone's worst wrath.

Caroline and I walked down South Empire avenue the next morning. Our pretty house was a mass of lumber on the rear of the lot; Gobson's was not far away, likewise wrecked. Everything was rain soaked and dismal.

For a long time we gazed at the ruin.

Then Caroline turned a laughing face to me. "John," she whispered, taking care that the other sightseers might not hear, "there's something to be thankful for—the castor beans and porch are gone!"

I kissed her goodby at the depot that evening and caught a farewell wave of her hand from the Pullman window as she was borne away for a visit to the home folks in that blessed haven of the dweller on prairie lands—"back East."

Gobson called at my office this afternoon. He will buy or sell, so that one of us may own both lots on South Empire avenue. I have written to Caroline. On her reply depends whether or not we shall undertake again the building of a "habitation in the wilderness."—C. M. Harger, in N. Y. Evening Post.

Letter-Writing Rules.

Always be gracious in your expressions of thought.

Never soil a letter with a rude or vulgar word. Avoid all slang or cant.

Be modest, simple and clear in your choice of words.

Avoid vanity and self-consciousness, and use the personal pronoun "I" as little as possible. Try to avoid beginning a letter with a personal pronoun.

Always verify your spelling and your quotations. If in doubt about a word, take the time to look it up in a dictionary. Many a person has spent half his life in trying to live down a reputation for bad spelling caused by laziness in not consulting a dictionary. Never quote a text from the Bible or a verse of poetry unless you are quite sure you know it correctly.

Do not use "high flown" expressions or grandiloquent terms. Do not make your adjectives larger than their nouns. A noun with an adjective that is too large for it is like a small boy walking about with his father's hat upon his head. Use simple adjectives. Do not use "tremendous" and superlative ones.

Learn the use of capitals, and be frugal in giving capital letters to common words. Capital letters go with



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YOU WILL RECEIVE AN
"EASTERN STAR" HAM.

Western Meat Company,
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proper nouns and other proper articles of speech—not common ones.

Learn the art of punctuation. Commas for quarter parts of a sentence, colons or semicolons for half of the sentence, and a full stop or period at the end.

Train your ear to have a sense of rhythm; read your sentences over and make them smooth. Do not end a sentence with a preposition or rough, harsh word. It is not enough that a sentence should look right; it must sound right This is what makes "scanning" such a beautiful part of our study of the classics. As an illustration of what is meant by having our sentences sound right, see Longfellow's poem of "Evangeline." Make your sentences not only correct to the eye, but smooth and rhythmical to your ear.

The important thing about writing a letter, after all, is to know what it is one wants to say. Think out clearly in advance what you are going to write about. Emerson says in one of his essays, "The secret of eloquence is to know your facts."

In correspondence at times it is well to bear in mind that a straight line is not always the shortest distance between two given points. There are two methods of heating a house by steam. One is by direct radiation, the other is by indirect radiation. Sometimes in writing a letter it is better to suggest a thing indirectly than to state it plainly. There are certain cold, hard facts which people do not like to read in writing. It is wise at times to leave room for the imagination to work, and let people draw their own conclusions without being compelled to state them ourselves in so many words.

When writing an important letter, make notes in advance of what you propose to say, or write out beforehand a rough draft or copy of it.

Keep in a blankbook a list of letters as they are received, with date of their writing. Answer your letters from this list from time to time and suit the character of the reply intended to the proper mood of mind. Reserve important letters which demand thought and care and delicacy of expression until you are in the right mood to reply to them. Do not, for instance, write a letter of condolence and sympathy to a friend in affliction when you are in a strenuous mood of mind, just as you are on the point of starting out on Monday morning to do the week's marketing. In letter-writing, as in many other things, there are times when we must brace up to our work, and there are times when it is the height of wisdom to become passive and relaxed.

Never mail a fierce and angry letter. It gives you away—if you give yourself away—and anger by letter is deliberate. Write out your fierce letter by night, lay it on your desk, read it over carefully the next morning, and then commit it tenderly to the waste basket.

Remember that a letter written and sent goes you know not where and lives perchance for ages. There it stands, as a witness against you, for all time. It can never be recalled or changed, and what you say sits everlastingly in judgment upon you, like a slice out of the day of judgment.

When you do not know whether to write a letter or not, postpone your writing until you know your mind better.

Remember always that the best letter-writers are those who have always a subtle consciousness of the person addressed. Most persons write to all their correspondents in much the same way, just as some clever talkers never get out of their one style of talk.

Be prompt in replying to your letters, and do not take time in apologizing for your delay in answering them. When you come to think of it, there is no reason why you should not answer most of your letters at once. Put them into your list of daily duties and—do them —William W. Newton.

Small holes in table linen should be darned with ravelings of the linen itself, and for this purpose the ravelings should be carefully preserved whenever new linen is purchased. Linen floss is the next best darning medium.

RUFUS M. STEELE

has written a notable article on "How San Francisco Grows," which appears, with many fine reproductions of late photographs, in

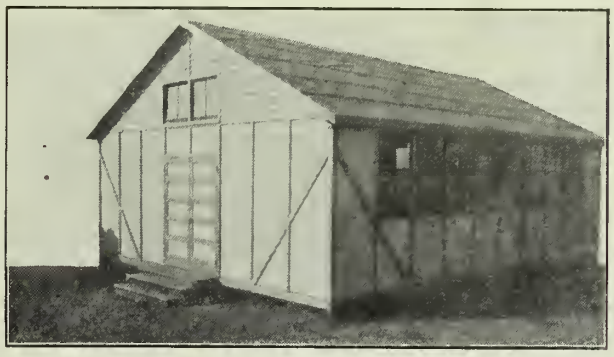
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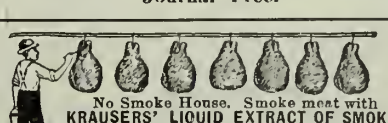
For further particulars and for maps, showing the subdiv'sions and prices per acre, address personally or by letter,

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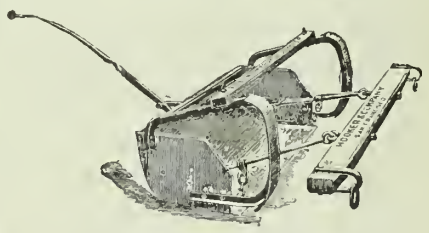

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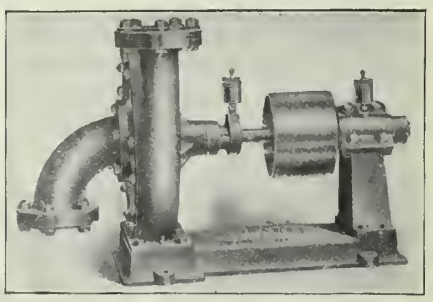
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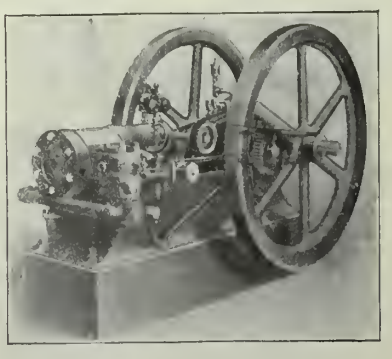
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The Markets.

San Francisco Produce Report.

San Francisco, November 30, 1904.

CHICAGO WHEAT FUTURES.

Wheat futures in Chicago were as follows for the week named, price being for No. 2 Red per bushel:

	May.	July.
Wednesday	$1 10⅛@1 09¼	$ 99⅛@ 98¼
Thursday	*——@——	——@——
Friday	1 10 @1 11	99 @ 99⅝
Saturday	1 10⅝@1 09¾	99⅛@ 98⅝
Monday	1 08⅝@1 09⅞	97½@ 98⅝
Tuesday	1 09⅞@1 08¼	99 @ 97½

CHICAGO CORN FUTURES.

Prices of futures on No. 2 corn per bushel in Chicago were as follows for the week:

	May.	July.
Wednesday	46⅛@45⅝	46⅛@45⅝
Thursday	*——@——	——@——
Friday	45⅞@46¼	46 @46⅛
Saturday	45¾@45⅞	45⅞@——
Monday	45⅝@46	45⅞@46
Tuesday	45⅞@45⅜	46 @45½

SAN FRANCISCO WHEAT FUTURES.

The range of values in San Francisco for No. 1 White wheat per cental was as follows:

	Dec., 1904.	May, 1905.
Thursday	*——@——	——@——
Friday	$1 42¾@1 43⅛	$1 44¾@1 45½
Saturday	1 42½@1 43	1 45⅜@1 44⅞
Monday	1 42½@1 42⅛	1 44⅝@1 44¼
Tuesday	1 42 @1 39¼	1 44¼@1 42⅝
Wednesday	1 38½@1 39⅜	1 42⅝@1 43¾

*Holiday.

Wheat.

There is very little doing in the local market in the way of trading in actual wheat. Offerings are light and the demand is far from brisk. Inquiry is mainly for choice to select milling, which is the scarcest on the list. Shippers are practically out of the market, as they cannot make the price of charters and the price of wheat fit with conditions abroad so as to afford them a profit. The charter market is lifeless, so far as the wheat carrying trade is concerned, and what a ship would command to-day for carrying wheat from this port is hard to say, but certainly not over 17s 6d per ton to Europe, usual option as to ports. As to quotable values for spot wheat there is little change in either milling or shipping descriptions. If shipping wheat were crowded to sale lower figures than are nominally current would have to be accepted. Desirable milling wheat is wanted and market for same is showing no weakness. The speculative market has been bobbing up and down, following mainly the manipulation in Chicago, but there have been no pronounced fluctuations in either direction. The bears were talking about fine harvest weather in Argentine and increased shipments from Australia.

California Milling	$1 47½@1 57½
Cal. No. 1 shipping, alongside	1 37½@1 40
No. 1 Oregon Club	1 37½@1 42½

PRICES OF FUTURES.

During past week the range on options was:
December, 1904, delivery. $1.43@1 38⅛.
May, 1905, delivery, $1.45⅝@1.42⅝.
Wednesday, at the forenoon session of Exchange. December, 1904, wheat sold at $1.38½@1.39⅜; May, 1905, $1.42⅝@1.43¾.

Ocean freights and prices for wheat, as compared with a year ago, are as follows:

	1903-04.	1904-05
Liv. quotations	-s-d@-s-d	-s-d@-s-d
Freight rates	10½@11¼s	17@20s
Local market	$1 35@1 37½	$1 37½@1 42½

Flour.

For desirable qualities the market is moderately firm at full current rates, especially for brands which are well and favorably known. Off qualities are dragging at irregular and generally low figures. There is a tolerably liberal movement outward and local business is up to the average.

Superfine, lower grades	$3 25 @3 50
Superfine, good to choice	3 50 @3 75
Country grades, extras	4 25 @4 50
Choice and extra choice	4 50 @5 00
Fancy brands, jobbing	5 00 @5 25
Oregon, Bakers' extra	3 75 @4 25
Washington, Bakers' extra	3 75 @4 40

Barley.

Market continues to present a firm tone with offerings light and no lack of demand, particularly for desirable export grades. It is altogether probable that shipments for the current season will be much lighter in the aggregate than for many years past, owing to the crop proving small and no large proportion of the yield being high-grade barley. There is not much No. 1 to choice feed barley offering, and bears are slow in shortening the speculative market for December and May deliveries of 100-ton lots of No. 1 feed, fearing they may get their fingers badly scorched by so doing. Trading in barley options has been decidedly light lately, and that some of the few transactions reported have been simply "wash" sales is altogether probable.

Feed, No. 1 to choice	$1 12½@1 13¾
Feed, fair to good	1 08¾@1 11¼
Brewing, No. 1 to choice	1 15 @1 21
Chevalier, No. 1 to choice	1 20 @1 25
Chevalier, common to fair	1 00 @1 10

Oats.

Spot offerings are not heavy and are largely common qualities of feed, values for which are ruling steady. Most of the recent arrivals are Washington oats, and the quality of the last crop is far below the average for that State. Strictly choice to fancy oats from any quarter are so scarce as to be hardly quotable in a regular way.

White oats, fancy feed	$1 50 @1 55
White, good to choice	1 37½@1 45
White, poor to fair	1 27½@1 35
Milling	1 45 @1 50
Black oats	1 30 @1 65
Red, fair to choice	1 25 @1 50

Corn.

Market is rather lightly stocked and is fully as firm as previously noted. Eastern new crop corn is coming forward in moderate quantity, all the receipts representing prior arrival purchases. Shipments of fair proportions are being made to Central America.

Large White, good to choice	$1 45 @1 50
Large Yellow	1 45 @1 50
Small Yellow	1 60 @1 65
Egyptian White	—— @——
Egyptian Brown	—— @——
Eastern, in bulk	1 35 @1 45

Rye.

There is some inquiry, mainly for seed. Stocks are light and market is firm in tone.

Good to choice	$1 42½@1 47½

Buckwheat.

A lot of 650 sacks arrived the current week, being the first receipts of this cereal for many months.

Beans.

Prices for beans of nearly all kinds continue at an unusually wide range, owing to the great difference in quality of this season's crop. There are few Pinks or Bayos offering which are not more or less damp. For all choice dry beans the market has a firm tone. The short sales of Limas at $3 per cental are reported to have been partly filled and the balance compromised.

Pea, fair to good, 100 lbs	$3 00 @3 25
Small White, good to choice	3 00 @3 35
Large White	2 35 @2 50
Pinks	2 00 @3 25
Bayos, good to choice	2 00 @2 75
Red Kidneys	4 50 @5 00
Reds	4 00 @4 50
Limas, good to choice	4 25 @4 50
Black-eye Beans	2 50 @2 60

Dried Peas.

Not many Peas of any kind on the market. Most of the Humboldt county crop was badly damaged by rain, causing prices for same to rule low this season.

Green Peas, California	1 75 @2 25
Garbanzos, Large	3 25 @3 50
Garbanzos, Small	3 00 @3 25
Niles	1 75 @2 25

Hops.

The market is quiet in this center, with offerings and demand both light. To purchase freely, fully as stiff prices as have been lately ruling would have to be paid, while on selling pressure concessions would have to be granted buyers. The attempt to pool the stocks remaining in first hands is said to have not met with success. The New York Producers' Price Current says: "The market is very quiet. There is no demand in New York State for export whatever. The brewers are showing no interest in the situation at present, seeming to believe that prices will ease up somewhat. Dealers, however, are very firm in their views, owing to the small amount of remaining stocks, and feel that the situation warrants the prices which are at present current. The foreign markets, with the exception of Germany, are quiet. In Germany considerable business is passing, and strange as it may appear, the poorer qualities are in great demand and prices for same have been advanced considerably."

California, good to choice, 1904 crop	29 @32

Wool.

The market is strong, but so little doing here, in the absence of noteworthy offerings, that there is nothing upon which to base quotations. That prices will rule higher the coming season seems fully assured. A recent purchase of 600,000 lbs. Texas Fall wool is reported at 17½c, the buyers being a Connecticut firm. Later sales were made up to 19c. At Melbourne, Australia, prices are 4@6c per pound higher than a year ago.

SPRING.

Northern, free	23 @—
Northern, defective	17 @21
Oregon, good to choice	20 @23
Nevada	16 @21

FALL.

Northern	15 @19
San Joaquin and Southern, free	13 @16
San Joaquin and Southern, defective	9 @11
Southern lambs, as to quality	9 @14

Hay and Straw.

The market for hay shows much the same condition as last noted. The cheaper grades are in lightest supply, as compared with the demand, and are commanding relatively the best figures. Good to choice hay is being offered quite freely. Prospects for any marked change for the better in the near future are not at the moment encouraging.

Wheat, good to choice	$12 50 @ 14 50
Wheat and Oat	12 00 @ 13 50
Tame Oat, fair to choice	8 00 @ 12 50
Wild Oat	8 00 @ 10 00
Barley	9 00 @ 11 00
Alfalfa	9 00 @ 11 50
Stock hay	5 00 @ 7 00
Compressed	12 00 @ 15 00
Straw, ₱ bale	40 @ 65

Millstuffs.

Market for Bran is firm at current rates, with fair inquiry and stocks not especially heavy. Middlings and Shorts are in ample supply. Rolled Barley and Milled Corn are being rather firmly held, and the former is quotably higher.

Bran, ₱ ton	$18 50 @ 19 50
Middlings	24 00 @ 27 00
Shorts, Oregon	19 00 @ 21 00
Barley, Rolled	23 50 @ 24 50
Cornmeal	31 00 @ 31 50
Cracked Corn	31 50 @ 32 00
Oilcake Meal	31 50 @ 33 00

Seeds.

Not much Alfalfa arriving and fair demand for same; extreme quotations are based on prices asked by jobbers. Market for Mustard Seed presents a firm tone, offerings being light, either on the spot or to arrive.

Flax	$1 75 @ 2 25
Mustard, Yellow	3 50 @ 4 00
Mustard, Trieste	4 50 @ 5 00
	Per lb.
Alfalfa	12 @13
Canary	6½@ 6¾
Rape	1¾@ 2¼
Hemp	3½@—
Timothy	5 @ 5½

Honey.

There is no very active movement. Asking prices are without appreciable change, but large buyers refuse to operate at top figures. Spot stocks are of very moderate proportions, especially of choice to select.

Extracted, White Liquid	6 @ 6¼
Extracted, Light Amber	4½@ 5½
Extracted, Amber	3¾@ 4½
Extracted, Dark Amber	3 @ 3½
White Comb, 1-frames	11½@12½
Amber Comb	9 @11

Beeswax.

Values are ruling decidedly steady. Not much wax arriving from any quarter.

Good to choice, light ₱ lb	29 @30
Dark	27 @28

Live Stock and Meats.

Demand for good to choice Beef is fairly active, prices remaining quotably as last noted. Veal is not in heavy receipt and best qualities sell readily at full current rates. Mutton is in very fair request at quotably unchanged values. Market for choice Lamb is moderately firm. Hogs are not arriving freely and all which are in prime to choice condition are meeting with a good market.

Allowing for the shrinkage of about 50%, which is exacted in buying cattle on the hoof, live cattle command as much or more per pound than dressed beef, the shrinkage exacted being the slaughterers' profit.

The following quotations for beef and mutton are based on prices realized by slaughterers from wholesale dealers:

Beef, 1st quality, dressed, net ₱ lb	6½@ 6¾
Beef, 2nd quality	5 @ 5½
Beef, 3rd quality	3 @ 5
Mutton—ewes, 6½@7c; wethers	7 @ 7½
Hogs, hard grain, 140 to 250 lbs	5 @ 5⅛
Hogs, large, hard, over 250 pounds	4⅝@ 4¾
Hogs, small, fat	4¾@ 5
Veal, large, ₱ lb	6 @ 7
Veal, small, ₱ lb	7 @ 9
Lamb, spring, ₱ lb	8 @ 9

Hides, Skins and Tallow.

There is active inquiry for Hides and market is firm at the quotations. Considerable movement in Pelts and Tallow, values ruling steady.

Nothing but select hides, clean and trimmed will bring full figures. Culls of all kinds, either from grubs, cuts, hair slips, side brands or murrain, are not always readily placed at the lower figures.

	Sound.	Culls.
Heavy Steers, over 56 lbs	—@11	—@10
Medium Steers, 48 to 56 lbs	—@10	—@ 9
Light Steers, under 48 lbs	—@ 9½	—@ 8½
Heavy Cow Hides, over 50 lbs	—@ 9½	—@ 8½
Light Cow Hides, under 50 lbs	—@ 9½	—@ 8½
Stags	—@ 7	—@ 6
Wet Salted Kip	—@10½	—@ 9½
Wet Salted Veal	—@11	—@10
Wet Salted Calf	—@11½	—@10½
Dry Hides	—@17	—@16
Dry Kip and Veal, 11 to 16 lbs	—@15	—@13
Dry Calf, under 4 lbs	—@20	—@18
Pelts, long wool, ₱ skin	1 00@1 50	
Pelts, medium, ₱ skin	70@ 90	
Pelts, short wool, ₱ skin	40@ 60	
Pelts, shearling, ₱ skin	15@ 30	
Horse Hides, salted, large prime, each	3 00@——	
Horse Hides, salted, medium	2 50@——	
Horse Hides, salted, small	2 00@——	
Horse Hides, dry, large	1 75@——	
Horse Hides, dry, medium	1 50@——	
Horse Hides, dry, small	1 00@——	
Tallow, good quality	4 @4½	
Tallow, poorer grades	2½@3½	

Bags and Bagging.

Same inactivity in this department as previously noted. Quotations are without change and represent prices asked.

Bean Bags	$ 4¾@5
Fruit Sacks, cotton	6¼@7½
Fruit Sacks, jute, as to quality	5¾@7
Grain Bags, Calcutta, 22x36, spot	5¼@5½
Grain Bags, San Quentin, ₱ 100	4 50 @—
Wool Sacks, 4-lb	32 @—
Wool Sacks, 3¼ lb	30 @—

Poultry.

The Turkey market around Thanksgiving and Christmas is subject to speedy and sharp fluctuations, so much so that the shrewdest dealers often fail to guess it correctly half a day or even half an hour ahead. Our last report closed Tuesday prior to Thanksgiving. Choice Dressed were then commanding in a limited way 28c., and holders of carload lots were contending for 27c. per lb. wholesale and refused bids of 25c. from the heaviest buyers in the trade. Only a few hours after bids of 25c. were refused the choicest Dressed Turkeys were selling at 20c. per lb., the smallest buyers being able to obtain them at this figure. Poor Turkeys sold down to 12½c. per lb. retail. There were heavy quantities of poor Turkeys on the market and large lots of as choice as were ever seen. The poor should not have been shipped in, and asking prices for good stock should have been more reasonable at the opening. Speculators got hold of the market, however, and made a sorry mess of it for themselves and the trade generally. Many consumers provided themselves with Chickens, Ducks or Geese before the break in Turkeys. Prices for all poultry other than Turkeys have been ruling fairly steady to firm.

Turkeys, Dressed, choice, ₱ lb	$ 18 @ 21
Turkeys, live gobblers, ₱ lb	15 @ 17
Turkeys, live hens ₱ lb	15 @ 17
Hens, California, ₱ dozen	4 50 @ 5 00
Hens, large	5 00 @ 6 00
Roosters, old	4 00 @ 4 50
Roosters, young (full-grown)	5 00 @ 6 00
Fryers	4 00 @ 4 50
Broilers, large	3 50 @ 4 00
Broilers, small to medium	2 50 @ 3 00
Ducks, old, ₱ dozen	5 00 @ 6 00
Ducks, large young, ₱ dozen	6 00 @ 8 00
Geese, ₱ pair	2 00 @ 2 25
Goslings, ₱ pair	2 25 @ 2 50
Pigeons, old, ₱ dozen	1 00 @ 1 50
Pigeons, young	2 25 @ 2 50

Butter.

Asking prices for fresh butter of good to choice quality have been advanced 1@2c. per lb., but at the higher figures buyers have not been taking hold freely. There is some demand for shipment, mostly for the best and the cheapest, medium qualities not being inquired for to any great extent on outside account.

Creamery, extras, ₱ lb	20 @—
Creamery, firsts	18 @19
Creamery, seconds	16 @17
Dairy, select	18 @—
Dairy, firsts	17 @—
Dairy, seconds	13 @14
Mixed Store	10 @12

Cheese.

Market is rather quiet for both flats and small cheese. There is not much selling pressure on desirable qualities, however, and prevailing values are being tolerably well maintained.

California, fancy flat, new	11½@12½
California, good to choice	10 @11
California, fair to good	9½@10
California, "Young Americas"	11 @13
Eastern	12 @14

Eggs.

As foreshadowed in last review, the market is lower, receivers finding it necessary to reduce asking figures to prevent accumulations. There are still heavy stocks of cold storage eggs in the hands of both wholesalers and retailers, and in consequence rather limited demand for the higher priced fresh.

California, select, large, white and fresh	37 @39
California, select, irregular color & size	30 @35
California, good to choice store	25 @30
Eastern firsts	23 @27
Eastern seconds	19 @21

Vegetables.

Most kinds of fresh vegetables now in season arrived sparingly, and where the quality was all right, generally good prices were realized. In the quotable range of values there were no pronounced changes. Onions were in moderate receipt, and holders of choice were asking a further advance.

Beans, Lima, ₱ lb	4 @ 6
Beans, String, ₱ lb	3 @ 5
Beans, Wax, ₱ lb	3 @ 5
Cabbage, choice garden, ₱ 100 lbs	65 @ 75
Egg Plant, ₱ box	75 @ 1 25
Garlic, ₱ lb	4 @ 5
Onions, Yellow Danver, ₱ ctl	2 00 @ 2 50
Peas, Green, Los Angeles, ₱ lb	4 @ 6
Peppers, Green, ₱ box	35 @ 60
Rhubarb, ₱ box	60 @ 75
Summer Squash, Los Ang., small bx	75 @ 1 00
Tomatoes, box	50 @ 1 00

NOTE.—Large boxes are what are known to the trade as "pay boxes," which have to be returned or paid for. They are open top, with hand holes in the ends, and weigh when filled from 50@60 lbs gross. Small boxes are free boxes, about the same as the regular fruit box, weighing when full from 20 to 30 lbs. gross.

Potatoes.

Market showed much the same general condition as previous week. Ordinary qualities of Burbanks were in heavy supply, and met with a slow market at fully as low figures as had been ruling. For strictly choice to select there was a fair demand at steady values. Sweets continued to be offered freely and at reasonable prices.

Salinas Burbanks, ₱ cental	90 @ 1 35
River Burbanks, ₱ cental	40 @ 75
River Reds, ₱ cental	65 @ 75
Oregon Burbanks, ₱ cental	75 @ 1 00
Sweet Potatoes, ₱ cental	75 @ 90

Fresh Fruits.

Apples are in heavy stock and for the general run of offerings the market is lacking in firmness. Further liberal receipts this week, largely from the North, added materially to the previous accumulations. That there will be any special change for the better in the near future is not probable. The present situation would be still worse were it not for the

fact that most of the Apples now here are owned by the dealers. Choice Winter Nelis Pears were in light stock and were salable to advantage. For common cooking Pears the inquiry was not brisk. Persimmons were not in heavy supply, but moved rather slowly at much the same figures as previous week. Grapes are nearly out of season; present offerings other than cold storage holdings are mostly of rather ordinary quality. Domestic Berries made a poor display, both as to quantity and quality; choice were in such light supply as to be hardly quotable.

Apples, fancy, ₱ 50-box	1 25	@	1 40
Apples, good to choice, 50-lb. bx	1 00	@	1 25
Apples, fair to good, ₱ box	60	@	1 00
Apples, Lady, ₱ box	1 75	@	2 25
Grapes, ₱ box or crate	40	@	1 00
Grapes, large open boxes	75	@	1 50
Pears, Winter Nelis, ₱ box	1 25	@	1 75
Pears, Cooking, ₱ box	50	@	75
Persimmons, ₱ regular box	50	@	85
Raspberries, ₱ chest	7 00	@	8 00
Strawberries, Longworth, ₱ chest	10 00	@	12 00
Strawberries, large, ₱ chest	4 00	@	7 00

Dried Fruits.

The market for cured and evaporated fruits is not showing as much activity as for some weeks preceding, but there is fully as much doing as could be reasonably expected, considering the light stocks of most descriptions. Firmness in the general tone is quite as pronounced as at date of last review, and there is nothing to warrant anticipating any sagging of values during the balance of the season, unless it be on Apples, which are subject to conditions East, where this fruit is in free supply and is offering at easy figures, naturally tending to depress values for the home product. Peaches are being very firmly held. Apricots of high grade are not obtainable in great quantity at extreme current figures. Choice to fancy Pears are scarce and have been all the season. There are few Pitted Plums and buyers in quest of choice find it necessary to pay tolerably stiff prices. Prunes now offering are mostly medium sizes and for desirable qualities current values are not difficult to realize. The ship British Isles cleared yesterday for London with 924,688 lbs. Prunes as part cargo. The steamer Peru took for New York 325,000 lbs. Prunes. The steamer Queen, destined for British Columbia, carried 20,000 lbs. Prunes and $4230 lbs. of other dried fruits, exclusive of Raisins.

EVAPORATED OR BLEACHED.

Apples, 50-lb boxes, rings, pressed, good to choice	4½@ 5
Apples, extra choice to fancy, 50-lb boxes	6 @ 6½
Apricots, Moorpark	9 @11½
Apricots, Royal, good to choice, ₱ lb	7½@ 8½
Apricots, Royal, fancy	9 @10
Figs, 10-lb box, 1-lb cartons	55 @60
Peaches, unpeeled, good to choice	7¼@ 7¾
Peaches, unpeeled, fancy to extra fancy	8 @ 9
Pears, standard, ₱ lb	6¾@ 7¼
Pears, choice to fancy	8 @10½
Plums, Black, pitted	5½@ 6½
Plums, Red, pitted	7 @ 8½
Plums, Yellow, pitted	6½@ 7½
Prunes, Silver, good to fancy	4 @ 7½

Prunes, in bags, 4 sizes, 1½@1¾c; 40-50s, 3¾@4c; 50-60s, 2¾@3c; 60-70s, 2¼@2½c; 70-80s, 1¾@2c; 80-90s, 1½@1¾c; 90-100s, 1@1¼c; small, ⅞@1c.

COMMON SUN-DRIED.

Apples, sliced	3½@ 4½
Apples, quartered	3½@ 4½
Figs, White, in bulk	2 @ 2½
Figs, Black	2½@ 4

Raisins.

Market is firm, with stocks of only moderate volume in both first and second hands. Especially are high grade Raisins being firmly held, the proportion of offerings being light of this description.

CROP OF 1904.

(Fresno delivery except otherwise specified,)

London Layers, 2 crown, 20-lb box	90 @ 95
London Layers, 3-crown, 20-lb box	95 @1 00
Fancy Clusters, 4 crown, 20-lb box	1 35 @——
Dehesas, 20-lb box	1 85 @——
Imperials, 20-lb box	2 25 @2 35
2-Crown Standard loose Muscatel	3¼@3½c
3-Crown Standard	3¾@4¼c
4-Crown Standard	4¾@5¼c
Seedless Thompsons	—@4 c
Seedless Sultanas	—@3 c
Fancy, 16-oz. Seeded	6½c
Choice, 16-oz. Seeded	5½c
Fancy, 12-oz. Seeded	5⅝c
Choice, 12-oz. Seeded	4⅞c
Bleached Sultanas, Woodland Dist., 50s	4¼@4¾c
Bleached Thompsons, Woodland Dist., 50s	4½@7½c

Citrus Fruits.

Oranges were in heavy receipt and for the general run of offerings the market lacked firmness. Much of the fruit was of small size and not fully ripe. The steamer Sonoma, to sail to-morrow, will carry several carloads for Australia and about 1,000 boxes for Honolulu. Lemon market is quiet, but is ruling steady for desirable stock. Limes are in fair supply and are offering at unchanged figures.

Oranges, Navels, ₱ box	1 25	@2 50	
Oranges, Seedlings, ₱ box	75	@1 25	
Oranges, Cal. Tangerines, half box	1 00	@1 25	
Lemons, California, select, ₱ box	3 00	@3 25	
Lemons, California, good to choice	2 25	@2 75	
Lemons, California, fair to good	1 25	@2 25	
Grape Fruit, ₱ box	1 50	@2 50	
Limes, Mexican, ₱ box	4 00	@——	

Nuts.

Almonds of choice to select quality are in light stock. Offerings are principally common to medium grades, and for these there is no active inquiry. There are few Walnuts now unplaced; No. 1 soft shell are especially in scanty supply and market for same is strong.

Chestnuts, Cal., ₱ lb	8 @10
Nonpareil Almonds	14 @17
Ne Plus Ultra Almonds	12 @14
Languedoc Almonds	9 @11
Peanuts, fair to prime	5½@ 6½
Cal Walnuts, No. 1 soft shell	12 @13
Cal. Walnuts, No. 2 soft shell	10 @11
Cal. Walnuts, No. 1 hard shell	10 @11
Cal. Walnuts, No. 2 hard shell	8 @ 9

Wine.

Market for dry wines is moderately active and is displaying considerable firmness. One transfer of this year's wine is noted at 15c per gallon, delivered at winery, the buyer furnishing the puncheons. One lot was purchased at 17c for shipment to Bremen, but this wine will probably have to be held until suitable for shipment, and the loss by shrinkage through racking off come upon the seller. Choice dry wine of 1903 vintage has been placed at 25c. Sweet wines are without quotable improvement, being in liberal stock. Sweet wines of 1903 are quoted at 32c per gallon in half barrels, San Francisco delivery. Receipts of wine the past week were 442,275 gallons, and for previous week 391,825 gallons. The steamer Peru, sailing Saturday last, carried 144,630 gallons, mostly for New York.

Produce Receipts.

Receipts and exports of leading cereals and other California products for the past week and for the season to date, as compared with the corresponding time the previous year, are as follows:

FOR THE WEEK.		Since July 1, 1904.	Same time last year.
Flour, ¼ sks	71,888	2,098,235	2,551,516
Wheat, ctls	30,692	1,409,316	892,639
Barley, ctls	28,516	1,816,340	3,554,664
Oats, ctls	17,563	547,379	585,983
Corn, ctls	4,000	86,543	65,389
Rye, ctls	2,411	29,181	28,178
Beans, sks	41,566	355,552	449,234
Potatoes, sks	29,130	538,836	542,997
Onions, sks	1,133	65,394	84,100
Hay, tons	2,080	90,258	93,161
Wool, bales	745	36,566	31,061
Hops, bales	884	27,009	20,918

EXPORTS BY SEA.

FOR THE WEEK.		Since July 1, 1904.	Same time last year.
Flour, ¼ sk	57,464	1,647,884	1,781,588
Wheat, ctls	419	430,307	387,670
Barley, ctls	76,026	1,037,418	2,850,581
Oats, ctls	774	15,613	11,657
Corn, ctls	2,434	41,006	7,784
Beans, sks	6,398	34,437	17,205
Hay, bales	1,669	64,286	75,646
Wool, lbs		809,532	1,585,404
Hops, lbs	1,532	185,680	389,485
Honey, cases	22	1,168	3,517
Potatoes, pkgs	2,143	43,646	39,732

Cured Spavins of Five Years' Standing.

Dartmouth, N. S., Apr. 5, 1904.

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140,000 Deaths a Year From This One Cause

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You may have but one or two symptoms now. May be only a small pain in the back, or a little weakness, or a little sediment, or you may be a little drowsy, or the feet may be a little swollen, or you have to get up several times in the night. It shows these small ways at first, but a little later comes the dropsy, heart trouble, sleepless nights, weakness—then death.

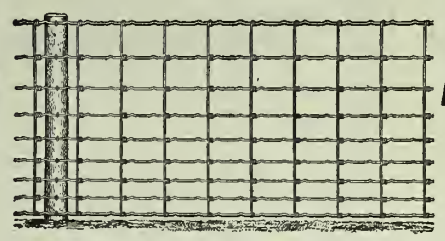
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PATENTS

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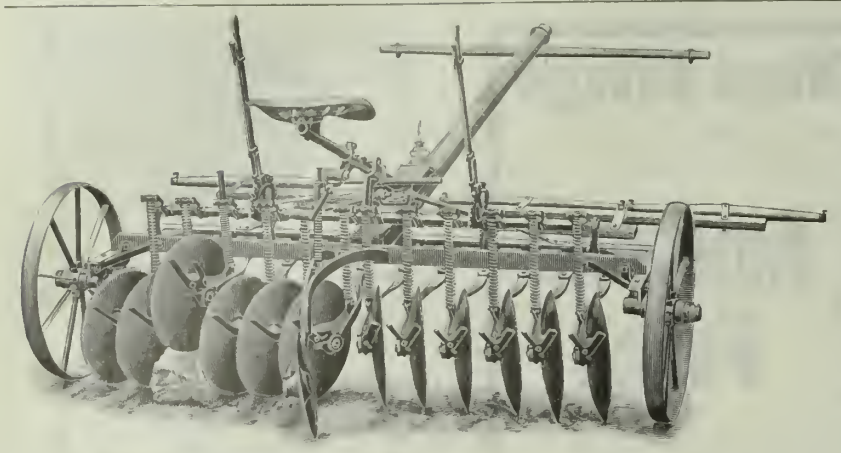
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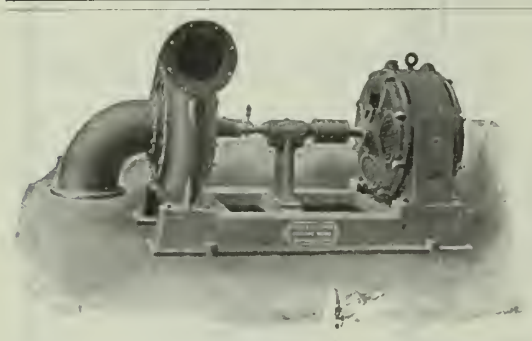
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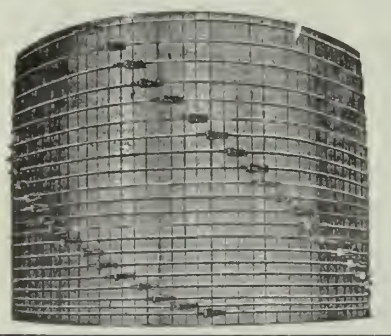
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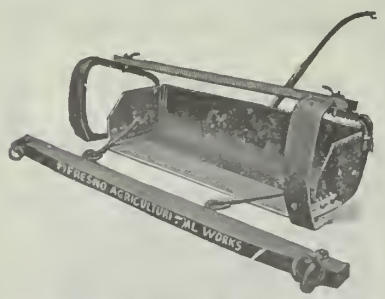
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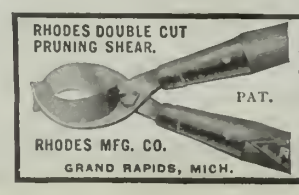
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THE SWINE YARD.

Selection of Breeding Swine.

By Mr. Elias Gallup, at the California Live Stock Breeders' Association Convention.

It is difficult to impart information by the aid of pen and pencil that will be an unerring and intelligent guide for persons who desire to select pigs suitable for breeding purposes. It is like all other knowledge in this, that instructions, if carefully and thoughtfully considered, aid the beginner a great deal, yet do not fill the place of experience. Selecting breeding animals is an education that can never be completed, and years of practical experience will not guide unerringly. Great proficiency may be attained, but the diligent, careful and thoughtful breeder will always be learning.

The writer of this article does not claim perfect mastery of the science of selecting and breeding Poland Chinas; on the contrary, errors and mistakes lie along a pathway of more than twenty-five years of study and active experience; that the future may exhibit many more is not only possible, but probable. If some of the many stumbling blocks can be located and pointed out and fairly good paths indicated for consideration the writer's object will be attained.

It is upon such a theory that the following suggestions are submitted. We find also that pigs are kept under the most varied circumstances, from those effecting the single-sty pig, for example, or the few gleaners about the farmyard, to the more extensive herds under the broader management known as swine husbandry. Owing to this great diversity of conditions to be taken into account it would be impossible to give in words definite teachings exactly suited to each case. At the very outset, in the selection of stock, there is a wide range for difference in choice. To produce pure-bred stock to be sold for breeding purposes, and the improvement of common stock may be the object in view with some. To rear and feed hogs for what they will bring on the market when fat may be the aim of others.

Location, the amount of capital at command and man's own taste or disposition in such matters must help determine which of these classes he will enter, or whether, as is often done, he will rear and breed hogs with both objects in view.

In founding a herd for the production of pure-bred stock it is advisable that the novice buy only from some reliable and experienced breeder, and that he leave to him the selection of the animals. If the man of whom we buy is really a breeder of experience his knowledge of the points to be considered in the mating of stock will be advisable, and if he be reliable it will be money well invested to pay him not only for good animals, but for selection of such as are best suited for breeding together. It will be time and money saved to begin right. Taking as a foundation so far as available the best stock and the ripest experience of those who have gone before, there will be time enough for experimenting and the testing of new-born theories after we are fairly in the field.

Having once learned something of the business from observation and practice, we may in later purchases trust more to ourselves, but at the start it is certainly best to rely upon the judgment of a well-informed and trustworthy breeder and have him select for us a boar and one or more sows, both sexes to be pure-bred animals. The fairs give good opportunity for examining the stock of leading breeders and of selecting good pigs. Yet much care should be taken in selecting from show pigs. Usually they are very fat, often they have been seriously injured by the forcing process to which they have been subjected. In very many cases the pigs of the same stock which have been left at home, perhaps in rather thin flesh, will prove more desirable as sires and dams.

In selecting there is room for notions. We confess to having our own. Among these is one that we do not admit the correctness of the advice to select a fine boned, compact, round bodied, short nosed, flabby jowled, pig, even if he be a little undersized. We like good strong masculine character. What breeder of Shorthorns would select a bull with a cow head and feminine appearance? It has been an old-time saying that the female should be much coarser than the male. I am like the Irishman who said if either of them are large and coarse let the two of them be that same. If we count several points more important with any of our improved breeds of pigs than an exceptionally short nose, or neck, or remarkably heavy, flabby jowl, such animals are apt to have throat trouble.

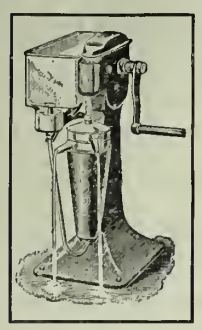
A pig should have a smooth, clean face. A common expression of our livestock writers is that constitution is of the greatest importance. I agree with them. A pig may have all the good points that the standard of that breed requires, but if he possess a poor constitution he should be rejected as a breeder. There is no certain and infallible sign of this much desired and essential thing called constitution, yet there are many outward signs that indicate not only its existence, but the degree of its strength.

As commonly used it means the vital power or health and strength of the animal. Some of the outward signs of a strong vitality are a large, wide chest—that is that part of the hog enclosed within the ribs. There lie the heart, lungs, stomach and the other internal organs. They must be shaped as to furnish a large, roomy cavity for those organs to have sufficient room for full size and to insure full and free action. It will be readily seen that organs which perform such important functions must be large and must have ample room for their ceaseless labors. In addition to this the body should have good supports, a strong back, feet and legs. The skin, hair, eyes and tail are all outside sentinels which tell whether the internal organs are working properly. If the eye is clear and bright, the hair smooth and laying close to the body, and the skin soft and elastic and the tail carried in curls, the internal organs are doing their duty; on the contrary, if the eye is red, watery and dull, the hair dry or harsh and standing up from the body, there is something wrong inside, and as these symptoms are more or less intense they indicate acute or chronic weakness and lack of constitution. Well may it, therefore, be said that constitution is of the greatest importance. A fine external form is the result of superior internal organism. Then in selecting breeding swine, select those which have broad, straight or slightly arched backs, large, deep chests, full sides and flanks, good, stout feet and legs, smooth, soft and close-lying hair and a soft, elastic skin, and the animal will likely have a good constitution and be a good feeder. On the other hand, avoid sunken and narrow backs, flat, narrow chests and sides, pinched flanks, weak, crooked or deformed legs and harsh, dry or wrinkled skin.

Whichever breed is selected, the symmetry should approach as near as possible the ideal hog of the selected breed. In addition there should be uniformity in the animals selected. I would not recommend the breeding of two animals together that were just alike in every respect; one should be a little better than the other. If you want to breed the largest of the breed,

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select all large hogs. On the contrary, if the smallest of the breed suit you, select all small animals. Do not take some large and some small ones and hope by coupling one with the other to thus produce the medium in size, as disappointment will most likely be the result. Another important feature is pedigree. It is the pedigree or history of the animal that enables you to learn whether it has for its ancestry pure-blooded and uniform animals. It is the record of the past that will be a guide to the future events. The truth is, no person should select a breeding animal without some inquiry as to its sire and dam, and all persons try even when buying scrubs to get a son or daughter of some famous horse, cow, sheep or hog, that has been noted in the neighborhood, and will pay more for such an animal than for another equally good that has no such known connection. Animals of the same family or line, not too closely related, should be selected, rather than to risk the union of different families. Do not be afraid of having your breeders akin. Several years ago I purchased from C. W. Jones of Richland, Mich., a pair of Poland China pigs. On receiving the pedigrees they were closely related. I was not pleased and wrote to him. In reply I received a long letter showing me how the great and noted hogs of that breed were bred. C. W. Jones was in his day the prince of breeders. It was he that directed the crosses that produced the most noted breeding hogs in the early days, the ancestors of our most noted families of the Poland China breed of the present day. For several years the writer believed in the no-kin doctrine, but finally yielded to that valuable school, the ideas and advice of men that have made a success of breeding valuable animals and improving the modern breeds of swine. In selecting breeders avoid coarse heads, thick, flabby ears, fish or crooked backs, crooked legs, bad feet, coarse hair, slab sides, coarse tails, narrow hips and loins higher behind than in front, a loose, waddling walk. You have noticed hogs whose backs and bodies had a wavering or serpentine motion in walking, like a large, ungainly dog; avoid them, as they lack nerve and vitality. They were born tired and will always remain tired; they move slowly, just fast enough to be caught by disease and grim death will take them in. There is another large element that must not be lost sight of. A vigorous, active animal is more impressive than the dull, sluggish one. If the male and female are each active and vigorous and can trace back to an ancestry of like character, their offspring will inherit those good qualities. If there be in male or female weak points, combat them with the strongest currents of an opposite character that can be marshaled.

Look first to strong constitutional qualities and let fancy points give way before those that fix stamina, strength and profit. What we properly enough call fancy points must be carefully considered in selecting pure-bred hogs. As a matter of fact most judges find themselves looking for these at first glance, or the absence of them is detected almost at first sight. A black nose on a Shorthorn or a flesh-colored nose on a Jersey will at once arrest the attention of one familiar with these breeds, perhaps more readily than a deficiency in some point of much greater intrinsic importance. A Berkshire pig may have a dishing face, erect ear, four white feet and white in face and tip of tail and yet be a poor specimen of a pig. A Jersey bull may have full black points, a well-defined muzzle ring and a wonderful escutcheon, yet be a poor individual.

We count it fully as important to look for defects as it is to look for excellencies. To select the pigs with the fewest defects is probably a safer and better rule than to select the animal with the most good points. There is always danger that some showy and desirable characteristic may so attract one that several somewhat serious defects may be passed over. A fine style may make one overlook comparative weakness in a half dozen points.

Some pigs favorably impress one at first sight, yet may have only moderate excellence, while other pigs at first sight unprepossessing are found to be good all over when examined in detail.

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The hog has become the medium to market the wastes of our immense wheat fields, our fruit orchards, our vineyards and the by-products of the dairies of this great State, and the small cost of rearing and the wonderful powers of thrift, with proper attention, render it almost indispensable in every farming community. It is the only domestic animal reared and fed solely for the sale of its flesh. Principal objects to be attained in selecting breeding swine is to produce animals that will be as near perfect machines for converting our wastes and grasses into pork and lard as a due regard to the health and reproductive qualities will permit—in other words, a hog that will uniformly produce the largest amount of food in the shortest possible time with the least expense and risk. To secure these ends, good health, vigorous appetite, docility, rapid and large growth, fertility, usual aptitude to fatten and a quiet disposition are necessary and indispensable. In fact, healthy, vigorous constitution, quiet disposition and great powers of assimilation are the ground work and basis of rapid growth and profitable pork making. In selecting our breeding hogs the above qualifications should be duly considered.

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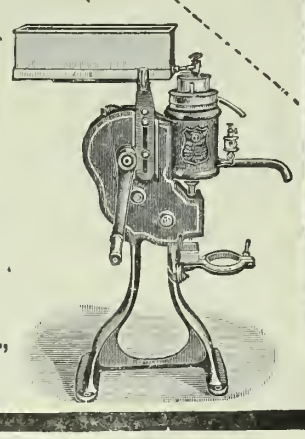
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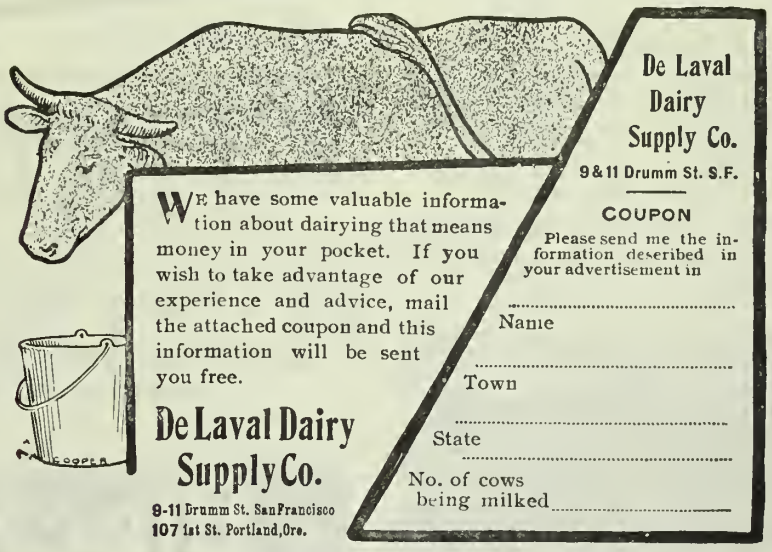
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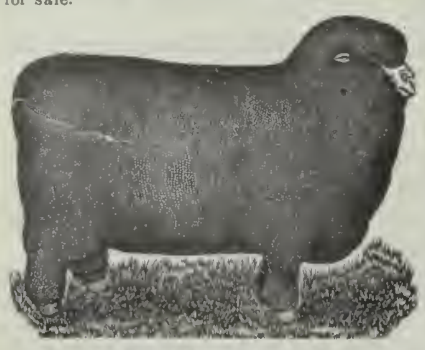
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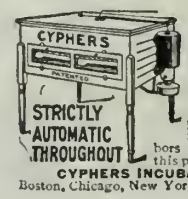


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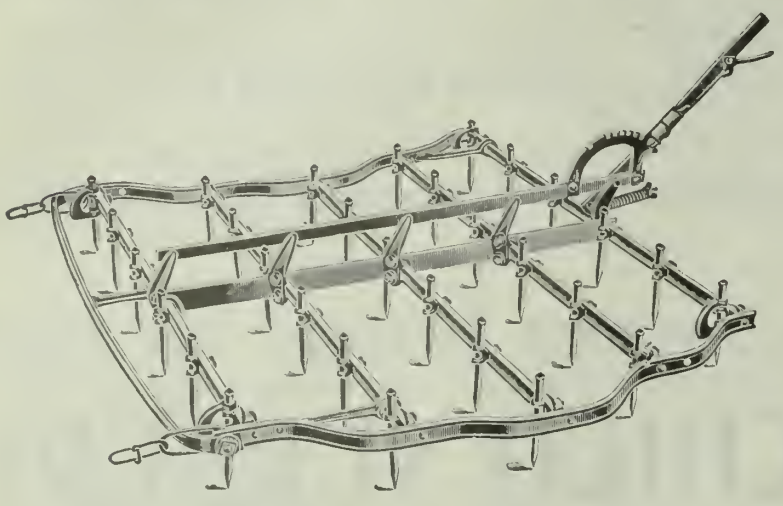
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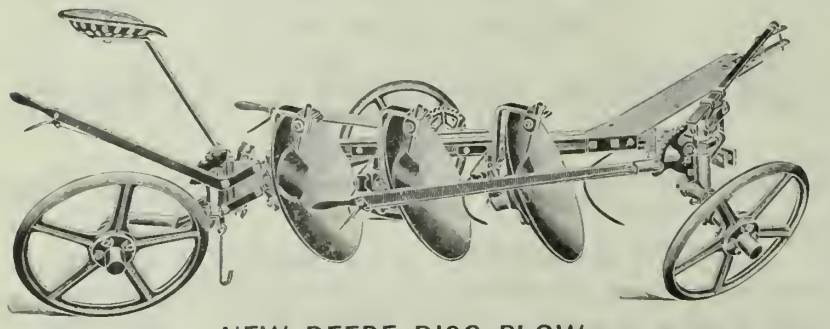
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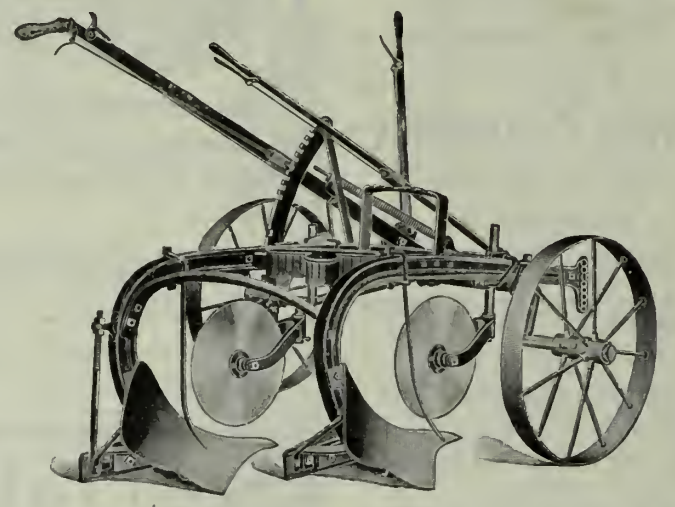
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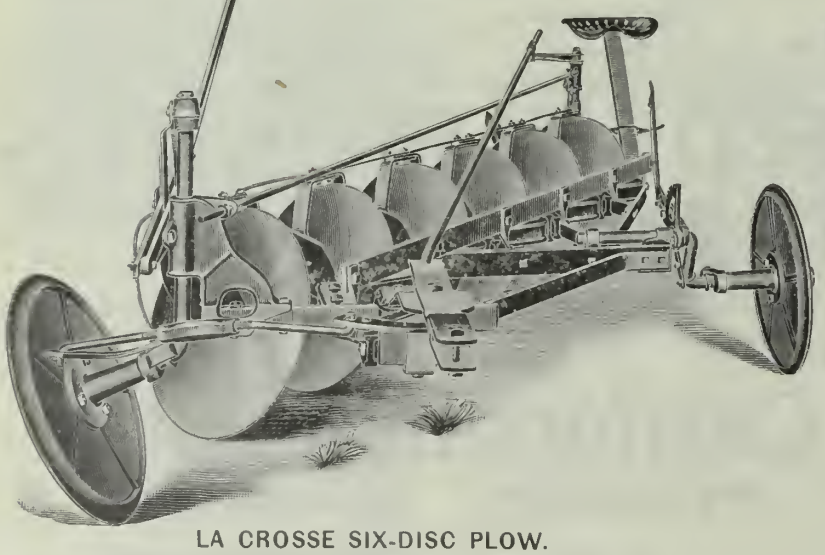
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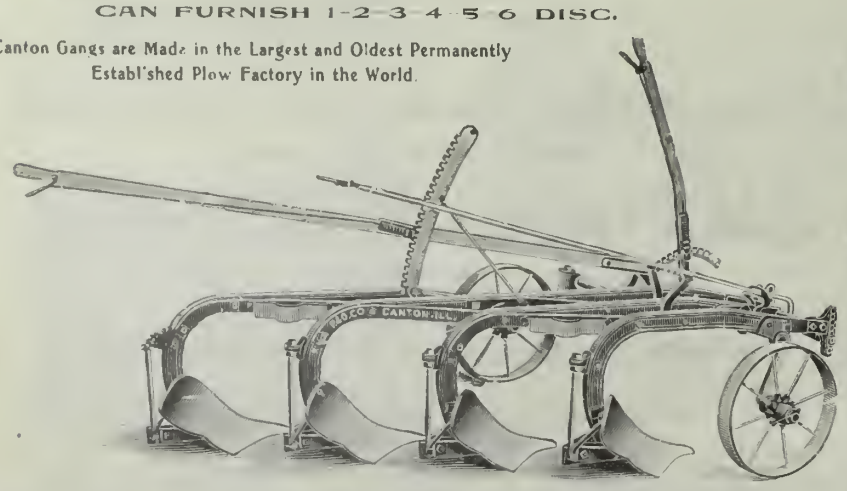
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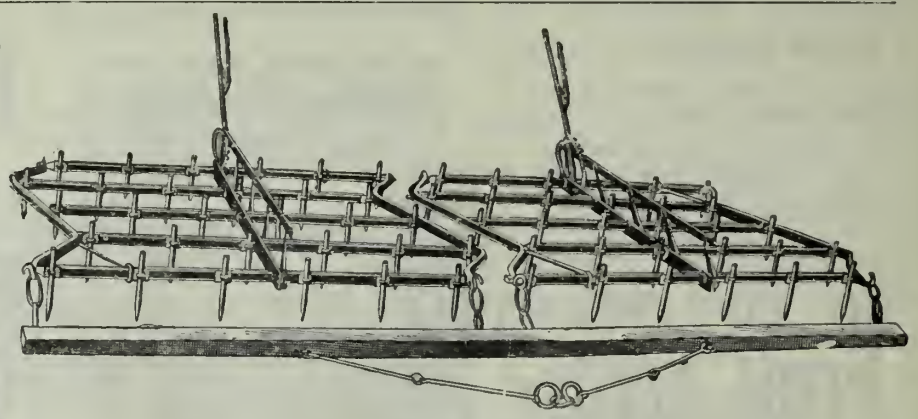
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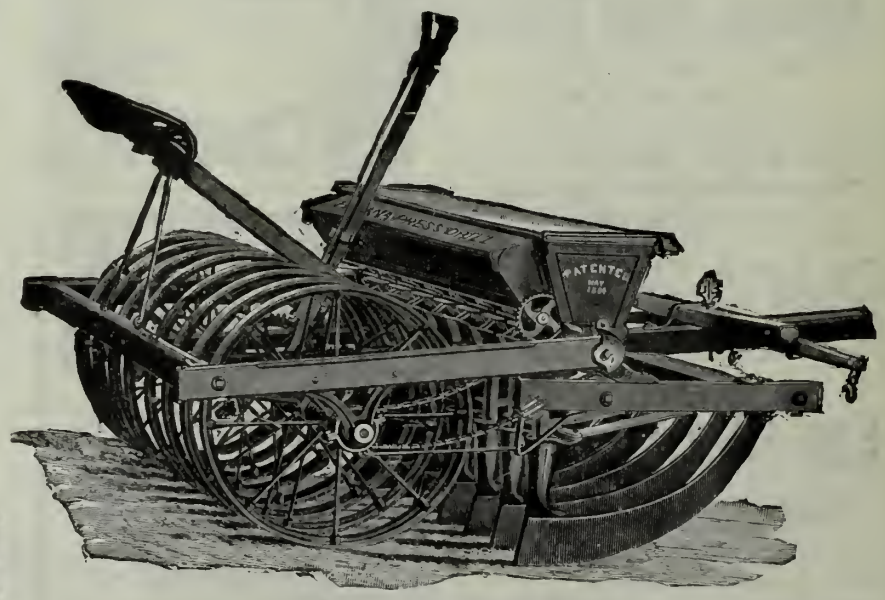
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Two Views in Nevada.

We have on this page two views from our sister State of Nevada which present a sharp contrast. One is expressive of desolation and the other of abounding life and activity. The scenes might be approximately the same geographical area at different seasons of the year, for the Beaver Creek country which seems so desolate is watered by the most important tributaries of Maggie creek and is grazed by range cattle and sheep for many miles up and into the mountains where there are many springs available for the use of stock and quite an array of forage plants and browsing shrubs are found in the proper season.



Camptender Moving Sheepherder's Camp, on the Nevada Ranges.

In the previous references which we have made to the excellent work of the Nevada Experiment Station in investigation of the sheep ranges of Nevada, we have given Prof. P. Beveridge Kennedy's sketches of the ways in which sheep are handled at different times of the year. Our last reference was in the PACIFIC RURAL PRESS of October 8th, and interesting facts were then given about the spring shearing and dipping, and the departure of the ewe flock for the lambing grounds in the dry lower foothills of adjacent ranges. During the lambing the sheep move but slowly, only about a mile a day, the lambs dropped during the day being rounded up into a bunch by themselves and a man put in charge of them, the rest of the band feeding off a short distance. Each day's lambing is thus rounded up into a separate bunch until all the ewes in the band have dropped their lambs. Sometimes the ewes, more especially the young ones, will not claim their lambs, so they are tied by means of a short rope to the nearest bush in order that the lambs may be fed. Shropshires retain their well-known characteristics on the range by being better mothers and producing hardier lambs than the Merinos. When the lambs are two or three days old the ewes are gradually brought together into larger bunches until they number about 700, which, with their lambs, makes a band of about 1400. They remain this way for about two weeks, when the lambs are branded, their tails cut and the males castrated, processes which are commonly known among sheepmen as "marking." Branding consists of making some kind of cut or slit on the ear, using the left ear for wethers and the right for ewes, which makes an easy method for separating them when the sheep are being prepared for shipment. In addition to this they are stamped with a letter or sign indicating the owner. This is done with a liquid made of linseed oil and lampblack, or more commonly one of the prepared inks, a number of which are on the market, is used. Tar will answer the purpose, but it will not come out in scouring, and is considered a defect in the wool. It is, however, cheaper and lasts longer. Marking in this way is necessary, as the bands of different sheepmen frequently get mixed together, when they are taken to the nearest corral and separated by the distinguishing brand. After marking, about 1400 ewes are put together, which, with their lambs, makes a band of about 2600. Ninety to 100% of lambs is a good average for grade Shropshires and from 80% to 90% for Merinos in a good year. In exceptional cases as high as 120% have been raised on the ranges in Nevada and 125% on pasture, as in the latter case there is no loss from coyotes and strays. In a pasture where there is no danger of becoming tied up in the brush the twin lambs are frequently tied together by their necks to prevent straying. If the previous winter has been a dry one the number of dry ewes is greatly increased, especially if they are only one and two years old. The younger the sheep the smaller the percentage of lambs, as they are frequently dry and seldom produce twins. Sometimes a lamb will survive and its mother die, and a ewe frequently loses her lamb. It is the custom, then, to take the pelt off the dead lamb and put it on the motherless one, or, as it is commonly called, the "bum" lamb, and give it to the ewe to bring up, the pelt being removed after a few days.

The greatest loss among the lambs is caused by the coyote—not less than 5% every year, and sometimes more. Although many hundreds are killed during the winter by the rifle, by poisoning and with traps, yet they seem to be on the increase. They are extremely prolific, having from six to eight young ones in a litter. The spring of 1903 was a remarkable one in regard to the numerous losses sustained by the depredations of this animal all over this State. Some sheepmen are indifferent in regard to the destruction of the coyote, leaving the work to the more energetic.



General View of Beaver Creek Country—One of the Open Sheep Ranges of Nevada.

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SAN FRANCISCO, DECEMBER 10, 1904.

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The Week.

It has been a week of great assemblies and much has been said and done for the advancement of agriculture in its various forms. First comes the assembling of Congress at Washington and the President's message reviewing the nation's progress and making suggestions therefor. One who can look back of a third of a century or more of Presidents' messages must be struck at the increased space which agriculture commands in these high State documents. Of course this fundamental industry has been duly recognized since the days of Washington, and Presidents' messages have contained many pertinent suggestions, but it is quite new for agriculture to command so much space and to be discussed with so great devotion to details as in the messages of the last decade. This manifestation is only one of the signs of the truer and more adequate regard for agriculture which prevails in the popular mind and in the interest which pertains to agricultural undertakings, intensely interesting in themselves, and immensely important to the welfare of mankind. President Roosevelt makes many striking statements in his contribution to the official agricultural literature of the day, and for size it is respectable, for it would fill this page or more. But it is not necessary for us to present all the facts, for the readers of the intelligent agricultural press already have them in possession, thanks to the Secretary of Agriculture for his free communication of the results of his work to the public press, and it is the office of the President to review these for the benefit of the non-agricultural classes. We find, however, a comment of the President which is significant and explains why the United States is making such rapid progress in agriculture:

> The Department of Agriculture has grown into an educational institution with a faculty of 2000 specialists making research into all the sciences of production. The Congress appropriates, directly and indirectly, $6,000,000 annually to carry on this work. It reaches every State and Territory in the Union, and the islands of the sea lately come under our flag. Co-operation is had with the State experiment stations, and with many other institutions and individuals. The world is carefully searched for new varieties of grains, fruits, grasses, vegetables, trees and shrubs, suitable to various localities in our country; and marked benefit to our producers has resulted. The activities of our age in lines of research have reached the tillers of the soil and inspired them with ambition to know more of the principles that govern the forces of nature with which they have to deal. Nearly half of the people of this country devote their energies to growing things from the soil. Until a recent date little has been done to prepare these millions for their life work. In most lines of human activity college-trained men are the leaders. The farmer had no opportunity for special training until the Congress made provision for it forty years ago. During these years progress has been made and teachers have been prepared. Over 5000 students are in attendance at our State agricultural colleges. The Federal Government expends $10,000,000 annually toward this education and for research. The Department of Agriculture has given facilities for post graduate work to 500 young men during the last seven years, preparing them for advanced lines of work in the Department and in the State institutions.

This enumeration of course only includes a part of those who are pursuing agricultural study and doing great things to advance agriculture, for the constantly increasing millions of readers of up-to-date agricultural journals and books are educating themselves and showing their intelligence and improved agriculture to millions of others, and thus serving constantly as extension agencies to disseminate the truth demonstrated at the institutions. The reason really why such great progress is being attained is not that such great institutions are maintained, but because the millions not in actual attendance upon them use them so constantly and well. The whole situation is very satisfactory and promising. It is a good deal of a joy to everybody to live in an age when true industrial learning is so universally sought for and esteemed. The President of the United States advertises the secret of our success to the world—there is no other way to attain such success.

The President of the United States has much to say about irrigation and forestry, and he says it well, as those who read his letter in the PACIFIC RURAL PRESS of November 26 already know. He now strongly urges the unification of the forestry work of the country—the handling of the forest reserves on the basis of use, and not of idleness—and all this is very hopeful for the future. Locally, too, the subjects of waters and forests were under active consideration at a convention held in this city, and the President's recommendations to Congress will have field for effectiveness with our own coming Legislature, as we shall explain more in detail at another time. Suffice it to say now that the annual convention of the California Water and Forest Association assembled December 2 in the rooms of the Chamber of Commerce in this city and gave careful consideration to a bill providing for the protection of forest lands within the State, which will be presented to the next Legislature. It proposes to create a State Board of Forestry and provides for the appointment of a State Forester, who shall be a member of the board. To their care is entrusted the State public lands and parks and important functions in protecting the forests of the State from fire and wanton destruction in other ways. Such a State organization can co-operate to great advantage with the United States Forestry Service whereby, as the President says, all the forest work of the Government shall be concentrated in the Department of Agriculture, where the larger part of that work is already done, where practically all the trained foresters of the Government are employed, where there is comprehensive first-hand knowledge of the problems of the reserves acquired on the ground, where all problems relating to growth from the soil are already gathered, and where all the sciences auxiliary to forestry are at hand for prompt and effective co-operation. These reasons are decisive in themselves, but it should be added that the great organizations of citizens whose interests are affected by the forest reserves will thus have an agency to co operate with in correct forest management and policy. The State of California should be ready for such co-operation by establishing its own Board of Forestry as is now proposed.

Another important assembly which convened after our last issue went to press was the Dairy Convention at Fresno, of which we shall have, of course, fuller details in later issues. The meeting was stirring and interesting throughout and profitable to those who participated. There was a good attendance of dairymen from all over the coast, the Sacramento valley being well represented, though the majority of those present were from the central California dairy regions. The meeting was evidently not cast down by the rather trying conditions which have recently arisen in the local butter trade, in fact great anticipations for expansion were indulged in. President George G. Knox of Sacramento in his opening address referred to the great extent of the consuming territory which can be reached from California, and expressed the opinion that for some time to come the supply will not overreach the demand. After covering the mountain States, Oregon and Washington and the country south of Tehachapi, the producer can turn to the East, but there competition must be on less favorable conditions. To supply the trade in the proper way, high and uniform standard of quality and a uniform packing are essential From the foot of Mount Shasta in the north to the Tehachapi mountains in the south, said Mr. Knox, is the greatest dairy territory under the sun, where there is now produced annually fully ten million pounds of butter, while not many years ago the same territory purchased half this amount from outside territory. Judge Shields of Sacramento and Dr. Leroy Anderson of San Luis Obispo got in some strong words upon education as related to dairy progress, and many exhortations to improved practice as the basis of wider success in all departments were made—but we shall recur to them in later issues.

Another assembly which is opening its four-days' meetings as we go to press is the Fruit Growers' Convention at San Jose. The convention opens well with an attendance of about 200 and a full programme. President Cooper in his opening address emphasized the necessity of co-operative action among growers. "I need not call your attention to the present demoralized condition of the prune, raisin and orange growers, and the dried fruit market generally," said Mr. Cooper, "for you are already aware of that fact, but the remedy is in our own hands. If we can organize, combine ourselves together and work harmoniously, we can control our own markets and secure fair profits for our products. With prunes at 1¼ cent, raisins at 2 cents and other fruits at similar ruinous prices, there is nothing left for the fruit grower but a choice between organization and starvation." That, it strikes us, is rather a strong statement on the blue side. We do not desire to do Mr. Cooper injustice, but if the argument for progress is based upon the utter demoralization and unprofitability of the fruit business, as these sentences indicate it may be, we protest against it most earnestly. The fruit interest has its troubles as every other interest has and it will correct and remove them by a stout arm and a brave heart, and not by depreciating the industry and pauperizing those who maintain it.

Stocks of wheat and barley in California are about one-third less than at this time last year, while beans are about one-fifth greater. Speculative wheat at Chicago held a high course until it broke to-day, but retains an advance of about 2 cents per bushel over last week. The local market did not follow the Chicago route either up or down. Spot wheat is unchanged. One straight and two mixed cargoes have gone out. Feed barley is 25 cents per ton lower, but if much was wanted no reduction would appear, probably. Choice beans are firmly held, while damaged go at any price. Limas are easier. Bran and middlings are steadily held and in good demand. Meats are all firm, especially medium hogs and lambs. Fresh butter is moving well and is firm at current rates. Cheese is in fair demand with stocks moderate. Eggs are going well at the decline and the market in good condition. Eight cars of Eastern poultry have come in and there are too many large chickens, though broilers go well and other poultry in good shape. Potatoes and onions are unchanged. Apples are still in excess; the market is oversupplied and one dealer credited with having ten cars on the track waiting. There are also too many small unripe oranges and Japanese fruit coming in. Lemons are quiet and fairly steady. The movement in prunes continues, three-quarters of a million pounds going out this week by sea — mostly to Europe. The dried fruit market is in good shape, only apples, medium prunes and pears being weak. Almonds are not brisk and not many choice here. Fine walnuts are about all taken. Hops are quiet and unchanged. Honey is not doing much locally, though 225 cases have gone to Germany. There is little wool here and the market stiff.

QUERIES AND REPLIES.

Growing Sugar Beets.

TO THE EDITOR:—Would you kindly give me information regarding the planting of sugar beets in your valuable paper? First, the time of planting; second, what kind of ground preferable; third, how to plant. Any other information relating to it will be greatly appreciated.—SUBSCRIBER, De Forest.

The details are beyond statement in this place. They are fully given in our book on "California Vegetables in Garden and Field." Interesting suggestions on growing are issued by most of the California sugar factories for use in their parishes. To reply briefly we may say that the time of planting depends upon the local climate, soil, etc. Earlier planting is, however, practiced than formerly in nearly all regions. The best seed does not like cold water, but as soon as moisture and heat come together the planting can be done, for the plant is hardy against light frosts. Planting is done in southern California as early as January and February, while in the interior at the north it is usually done in March and April, and near the coast, with heavy rainfall and rather retentive soil, it may be early in May before things come right for planting. The soil should be a deep and rather light loam, so that the root may penetrate deeply and displace the soil so as to attain symmetrical shape. Stock beets will do well on a soil which may be rather heavy for sugar beets. Planting is done in drills about 20 inches apart with a properly adjusted seeding machine, running about 1½ inch under the surface, or deeper if the soil is light and the rainfall likely to be light also. Good cultivation is essential and thinning or spacing in the row so as to get uniform size is one of the most important operations to be provided for. A satisfactory beet crop requires good land and good farming.

Potato Growing.

TO THE EDITOR:—In the September number of the Review of Reviews was an article stating among other things that there was a farm in the Sacramento valley on which 800 acres were devoted to potato raising. Can you give me the address of the owner? Is potato raising on so large a scale profitable in your State? Are there any other instances where potatoes are raised on such a large scale to your knowledge? Any information on the subject will be greatly appreciated.—READER, Milwaukee, Wis.

We have not at hand the magazine to which you allude and therefore miss the opportunity of catching at some fact in it which would more definitely locate the potato farm about which you inquire. Evidently this farm is on the reclaimed lands of the Sacramento or San Joaquin rivers and is possibly practically the whole of one of the smaller islands. These rich and light soils, made up in good part of river sediment and decomposed vegetation, are quite largely used for growing potatoes and other vegetables. The product is very cheaply made and oftentimes exceedingly profitable. A few years ago, when potatoes were rather high because of opportunity of Eastern shipment, it was reported that a single crop had returned the value of the land on which it was grown. Profit fluctuates considerably from year to year and is largely measured by the opportunity of shipping to Texas and adjoining States; also by export shipment across the Pacific. These island potatoes are not of the highest quality, but still are a satisfactory article. This year the supply is rather large and at this time prices would not return any such profit as is indicated. A fuller account of the localities in which potatoes are grown and the methods employed is given in our book on "California Vegetables in Field and Garden."

Blackberry Rust.

TO THE EDITOR:—What spray do you use for rust on blackberries? I am lately from the East and information will be thankfully received.—NEWCOMER, Lodi.

The Bordeaux mixture is the best application to make for the rust of the blackberry. You should cut out all the old canes which have borne fruit and burn them, saving the growth of the last summer for next year's fruiting. These can usually be shortened to some extent, leaving them say 6 feet high. After doing all this (clearing out and burning the trimmings), spray the plants with the Bordeaux mixture. This will kill spores which may be resting during the winter on the canes and will in that way much lessen the rust next year. After the next fruit crop is gathered it will be well to spray again with the Bordeaux in order that the growth of the plants may be strong during the latter part of the season.

Rape for Winter Feeding.

TO THE EDITOR:—Will you give me advice about growing rape for chickens and pasturage? Should it be treated the same as alfalfa? Which is the better time to sow it, spring or fall? How often should it be irrigated? Will it stand the high temperature of this valley, at times 115° F.?—GROWER, Clovis, Fresno county.

Rape makes a good winter growth in the interior valley, especially in places where the frost is not too sharp. At your altitude in the valley it ought to do very well in the winter time. It is not a good summer-growing plant, although by starting during the rainy season it will be available for a certain length of time into the dry season, but late sowing in the spring generally does not give the plant opportunity to root well enough to carry it far into the heat and drouth. It can be sown broadcast like alfalfa, or it can be sown in the drill far enough apart to use the cultivator. The best plan is to rely upon the growth of rape while the alfalfa is making little growth. In the hot, dry season, if you have alfalfa and plenty of water to keep it growing, you will not need other green pasturage for fowls.

Plants for Salt Marsh.

TO THE EDITOR:—Can you give me information as to what is the best kind of grass, plants, vegetables or trees to plant on reclaimed salt marsh land?—RECLAIMER, Napa county.

There is no comprehensive and satisfactory publication along the line you indicate. Far more satisfactory information is available as to plants which tolerate alkali. It is unfortunate, however, that plants do not exhibit the same toleration for common salt that they do for alkali, a smaller percentage of common salt being more destructive. For this reason the experience with alkali does not serve as a guide for reclaimed salt marsh. However, in a general way, barley is the plant which is generally employed to test the disappearance of salt, and if there still remains too much salt for barley it is hopeless to get any grass to stand, but when barley endures, the ground is considered suitable for introduction of grasses. On the whole, the English or Australian rye grass is best, and there are considerable areas of this grass on such land. Of vegetables, stock beets are usually first to succeed on reclaimed salt marsh, and when beets demonstrate their success careful experiments can be tried with the introduction of other roots and of foliage vegetables as well.

A Bad Weed.

TO THE EDITOR:—I send a sample of a weed that seems to be taking possession of my ranch. I cannot get rid of it and have tried every way I could think of to do so. It does not seem to have any blossoms or seeds apparently, at least I have never seen any. Can you suggest any remedy? Also for the wild morning glory; there are two places of the latter about 16 feet square, and it seems to be spreading. Do you know of anything that will kill both weeds?—READER, Santa Cruz.

The plant is Indian hemp (Apocynum cannabinum), of the Dogbane family. It is perennial, growing from strong tap root. Eradication is difficult; only deep spudding will do it, or complete starving of roots by cutting the tops and then going over field and cutting shoots just as they make their appearance at the surface of the soil, or sooner. By such repeated action the roots are starved. This also is the only remedy for morning glory.

New Trees in Old Places.

TO THE EDITOR:—I have been bothered the last few years in starting young trees in an old orchard where trees have died out. Is there any chemical that I can buy to put on the soil that will make young trees thrive, my fruits are apples and apricots. The soil is in the bottom near Corralitos—a rich sandy loam and trees when first set out grew thriftly. It is not lack of barnyard manure for I have tried it; it does not seem to affect the young trees at all. In Los Angeles county among the orange trees there is quite a good deal of nitrate of soda used, but whether it is the proper thing for our soil here I do not know.—GROWER, Santa Cruz.

From what you say about the nature of the soil and the application of fertilizers which you have made we doubt if anything will help the young tree to start except trenching and removing the roots of the old trees for a space—say 8 feet in diameter at the spot where you expect to plant the new tree. The old trees are aggressive and the exhaustion of moisture by their roots naturally checks the growth of the young tree which is struggling to establish itself, and nothing but the removal of such intrusion will help matters. Nitrate of soda is a good stimulant to growth, but so long as the soil is rich and you have used barnyard manure in abundance there is nothing of gain from further application of fertilizers.

WEATHER AND CROPS.

Report of the U. S. Weather Service for Week Ending December 5, 1904.

ALEXANDER MCADIE, Forecast Official and Section Director.

Sacramento Valley.

Generally clear and cool weather prevailed during the week, with light frosts, which caused no damage. Light rain fell Wednesday and Thursday. The season has been unusually favorable for citrus fruits, oranges having colored satisfactorily, and lemon trees being heavily laden with excellent fruit. No damage has been done to either crop by frosts or high winds. Orange picking and shipping are progressing rapidly. The yield and quality are fully average. Grain continues in good condition and is making rapid growth. Plowing and seeding are progressing. Pasturage is abundant and of good quality in all sections, and cattle are in prime condition.

Coast and Bay Sections.

The temperature was nearly normal and the weather generally clear during the week, with fogs in the coast districts and light to heavy frosts in nearly all sections. Light showers fell in nearly all districts and were very beneficial in the south. Killing frost occurred at Peachland on the 3d, but caused no damage. A large acreage of grain has been sown in the central and northern sections and about the usual acreage will be planted in the south. Much of the grain is up and making rapid growth, with indications of a large crop. Plowing and seeding continue. Pasturage is plentiful in most places and cattle are in good condition. The corn crop has all been harvested. Oranges at Cloverdale and Peachland are coloring and will soon be ready for picking; the outlook is good for a large crop. The olive crop at Cloverdale is unusually large. Pruning has commenced in vineyards and orchards.

San Joaquin Valley.

Cool and partly cloudy weather prevailed during the past week, with occasional fogs in the morning. Light frosts were reported from some sections, but caused no damage. Plowing and seeding continue in the northern portion of the valley where the ground is in fairly good condition to work, but in the central and southern portions it is most too dry for farming operations. Rain is badly needed in all sections. Green feed and early sown grain are looking fairly good. Feed is plentiful and stock are healthy and in good condition. Large shipments of oranges and lemons continue to Eastern markets. The oranges are particularly good this season—of large size, excellent quality and very ripe for this time of year. Irrigation water is plentiful.

Southern California.

The weatber was cooler than during the preceding week and partly cloudy toward the close, with light rain in some sections. The rainfall at La Mesa on the 2d was 0.38 incb, and was the first since October 9th. Orange and lemon orchards are showing the lack of moisture and irrigation water is becoming low. In the Ontario district Mr. J. H. Barber reports: "Orange packing of holiday fruit is in progress; the quality of the fruit is very good, but the crop is estimated as less than last year." Mr. O. W. Prescott of Covina reports: "Oranges show the need of moisturo. The crop will be about half of that of last season. No oranges are being shipped for holiday trade." At San Diego and Anaheim oranges are coloring slowly. Lemons are reported in fair condition. Very little farm work is being done, owing to the dryness of the soil, and pasturage has almost failed.

LOS ANGELES SUMMARY. — Oranges are coloring slowly in the northern and coast districts; holiday shipments will be light. In the interior they are well colored and much sweeter than usual at this time of the year; shipments are brisk for holiday trade and prospects for season are very encouraging.

EUREKA SUMMARY.—Weather during the past week very favorable for farm work. Plowing and planting oats progressing satisfactorily. Green feed at tbis time of the year was never better. Stock are in fine condition; the flow of milk is unusually heavy.

Rainfall and Temperature.

The following data for the week ending 5 A. M. Wednesday, December 7, 1904, are from official sources and are furnished by the United States Weather Bureau for the PACIFIC RURAL PRESS:

CALIFORNIA STATIONS.	Total Rainfall for the Week	Total Seasonal Rainfall to Date	Total Seasonal Rainfall Last Year to Same Date	Average Seasonal Rainfall to Date	Maximum Temperature for the week	Minimum Temperature for the week
Eureka	.00	9.05	14 21	12 06	60	38
Red Bluff	.00	10.79	8.45	6.59	62	32
Sacramento	.00	7.59	3.56	4 60	60	32
San Francisco	.01	8.60	4.42	6.48	58	45
Fresno	.00	5 06	.68	2.14	62	30
Independence	.00	.45	.42	1.23	60	26
San Luis Obispo	.02	4.73	.50	4.89	70	36
Los Angeles	.34	1 48	43	3.26	74	44
San Diego	.06	.23	.07	1.54	72	52
Yuma	T	.81	.66	1.32	80	38

FRUIT MARKETING.

The Merchant as a Factor in Marketing.

By C. H. Bentley, Manager Sales Department, California Fruit Canners' Association, at the State Farmers' Institute at the University of California.

It is interesting to observe how the University of California, through its College of Agriculture, has attended our agricultural industry from its very birth, nursing it, educating it and assisting fairly in launching it in its struggle for existence. Not satisfied with the giving of advice regarding adaptability of soils, with making practical demonstrations in improved methods of culture, nor with finding and providing effective remedies against pests, it goes further and now proposes to investigate what many would describe as only another parasite threatening the prosperity of agriculture—the middleman.

Presuming to speak for the merchant, and more particularly the manufacturer, it would be the part of ingratitude not to express, upon this occasion, high appreciation of the ever ready, practical and altogether satisfactory information the University is constantly giving, not only to agriculturists, but to merchants and manufacturers. We can felicitate ourselves in the foundation of this University of the State—found worthy of its fortunate location, worthy of its vast resources, and worthy of an intelligent and progressive people.

Why Has Distribution Failed?—From the logical arrangements of the topics which have been presented for your consideration, considering the difficulties now confronting our fruit industry, hearing the repeated cry of overproduction, and in view of the various efforts at co-operation among growers, which in some cases are expected to do away with the middlemen, it has seemed wise to confine this period to a discussion of the reasons why the merchant has failed to find a profitable market for our fruit products and to an investigation of the merits of the proposed substitute—co-operative organization among growers. We shall try to discover to what extent the merchant is responsible for the present conditions and to investigate the limitations of the present tendency towards co-operation.

For the purpose of this discussion, then, let us consider the merchant as the middleman—the large factor who takes the product of the farmer either on commission or as a purchase and sells to the wholesale dealer. Correspondingly the co-operative organizations discussed are only those that actually attempt the displacing of middlemen in selling their own products directly to wholesale dealers.

It is obvious that we are producing more fruit than our markets will take at profitable figures under present methods of selling and under present conditions of transportation. It is equally true that the grower under present conditions of labor and land values cannot afford to sell products such as raisins and prunes for prevailing prices. What shall be the outcome? Even on the much abused principle of charging what the traffic will bear, the tendency must be on the part of transportation companies to keep their tariffs as low as possible when producers are not getting profitable returns, for otherwise their traffic will diminish. As a general principle, the same motives must actuate the merchant, for his activity is largely dependent on the prosperity of the farmer.

The Prune Trade.—That we may clearly understand the present emergency, let us consider the situation in the prune market. When the first quotations were put forward on the new crop this season, the prices seemed so low as to be discouraging to growers, and the thought was that there would be a ready response from the trade resulting in the correspondingly large consumption of this product. Nevertheless, the trade refused to buy for an extended period. It was only after a considerable lapse of time, and after further reductions in prices were made, that buyers regarded prunes as a safe purchase and began placing their orders. It has become a necessity for the wholesale dealer in prunes, raisins and similar lines to sell futures. If he has confidence in the stability of the market, and better still, if he has reason to expect an advancing market, so long as the price is within reason, on an hour's notice his force of salesmen will be set working effectively on California prunes. He will get confidence as his sales are made and continue buying freely, urging his men to continue selling. The salesmen are encouraged by previous successes and concentrate their efforts more and more on prunes. Competitors take up the line; everybody is talking prunes. With the first intimation of a stiffening or advance in the market the trade begins to anticipate requirements and buys more freely. The retailer is now well stocked so that he must interest the consumer to sell his goods. Under such circumstances the demand continues until the crop is sold. Suppose, on the other hand, the dealer has no confidence in the prune market, fearing a decline in the price. Brokers are urging sales, and in their desperation solicit counter offers from the dealers. The offer may be made and accepted for a limited quantity. The buyer is perhaps surprised that his offer is accepted, and urges his salesmen to sell quickly the car he may have bought. At this time another offer may be made at a trifling reduction. If his original purchase is not moving quickly, he is likely to reduce his price. This immediately results in his salesmen losing confidence in prunes, fearing that their regular customers will be caught on the decline. The retailers seeing the falling market will not buy. The original car bought may be sold, but under such circumstances will the dealer be likely to buy more? He will certainly endeavor to get along with barely enough to fill his unsolicited orders. The consumer, on the other hand, is as ready to buy as ever, but the retailer has no considerable stock, possibly an inferior quality carried over from the previous season, and in any case he is not urging the sale of prunes. The price may have been considerably lower in the latter case than in the former, but until it strikes bottom and dealers see reasonable chance of profit it is safe to say that the sales will be much smaller in volume than in the previous condition where the price may have been much higher. It is generally believed that consumption increases as prices diminish, but it does not necessarily follow with products which the consumer is not obliged to have. It is quite essential that the wholesale dealer should have confidence in the stability of the market. Recent experiments in San Francisco, where firms not engaged in the fruit business were able to interest consumers in California prunes at a fair price for all concerned, give further proof of the fact that we have not reached the stage of overproduction. The consumer is able and willing to pay a fair price for our prunes, but the present methods of selling are to a considerable extent accountable for the failure.

The Merchant's Place.—In this system of distribution what advantage, if any, has the merchant as contrasted with the co-operative organization? His general expenses do not fall on any particular product. He handles many different lines of merchandise requiring attention throughout the year, instead of at any particular season. With his varied lines and large volume of business he commands the attention of all the markets in the world and secures the interest of the best correspondents or dealers. He keeps in close touch with lines of transportation, and is often instrumental in securing new and improved facilities. He is the pioneer in securing new markets. He is quick to secure favoring legislation. He is usually satisfactory to the producer until prices are unprofitable, then relief is naturally sought in co-operative organization.

In respect of getting the volume of business together, thereby commanding the attention of the world's market, our larger efforts at co-operation have had some of the advantage of the merchant's position, but so far as their efforts at actual distribution are concerned they have made no success in displacing the merchant. There seems to be too many producers widely scattered—too many conflicting interests to attempt a general sale of the products through co-operation. The grower who is diligent and thrifty will never consent to carry the burden of the careless and shiftless. Those who have attempted to manage such co-operative schemes have apparently failed because they have invariably held their product at a price under which the trade could freely buy their requirements from outsiders. They have generally fallen into the error of discussing "the statistical position" of fruit products and basing their prices and selling policy thereupon. This fallacy carries the tacit assumption that the consumer must take a quantity which can be approximately estimated. Unfortunately for those of us who are engaged in the fruit business our products are not necessities. We have had forced upon our attention the fact that substitutes are easily found, and that the large dealers and distributors will not push the sale of our products unless they can reasonably hope for profit. We have not given sufficient attention to the fact that the improved transportation facilities which have opened up remote markets formerly dependent upon our products are now sending fresh fruits and vegetables from other sections throughout the entire year.

Growers' Organizations.—Too much cannot be said in support of general organizations of growers aimed to secure reliable information regarding crops and markets; to secure better service from transportation lines; to prevent abuses on the part of merchants; to secure favorable legislation; to advertise. The principle of co-operation is entirely sane and has been successfully applied in assisting to solve problems like our own, but when applied successfully to the sale of products on a large scale, the co-operative organization has virtually become a corporation—a general stock company. There must be an agent, a factor, a middleman to sell, whichever system is followed, and the question is which is most effective and economical—an organization of farmers giving only a divided interest, and possibly taking valuable time from duties on the farm, or a merchant giving his entire time and attention to distribution? It is a significant fact that few fortunes have been made by middlemen who have been handling prunes, raisins or dried fruits in this State? There have been many more failures than successes, and the present conditions of competition, while yielding no profit to the grower, are yielding none to the merchant.

A Trying Period.—It is evident that we are passing through a period of readjustment, and the remedy for the present condition must be supplied by the joint action of the three important factors—the transportation company, the producer and the merchant. With regard to the producer, it is evident that he must reduce his cost of production and improve the quality of his goods. If he has paid too much for his land and is suffering from overcapitalization, there must be a readjustment. It is obvious that lands costing $500 and $600 per acre cannot compete successfully in the raising of prunes with lands costing $60 per acre. It may be that the quality in the former case is slightly better, but this is offset in many cases by the larger yield from immense tracts of the cheaper land more recently devoted to the raising of prunes. Orange growers, who have paid from $600 to $1000 per acre, are finding it difficult to show earnings on their investments. The cost of production is too high, largely because of overcapitalization. In this strenuous day it may be that the thrifty farmer will find it advisable to do something between seasons to improve his product and divide the burden of his general expenses through diversified farming—in short, to work as the successful merchant must, in keeping his operating expenses reduced to a minimum.

Amusing pictures have been drawn of the merchant or business man as a farmer, but the farmer as a merchant presents an unusually pathetic spectacle, and perhaps a suitable companion piece.

Growers and Merchants.—There does seem to be a distinct opportunity for local co-operation among growers, not seeking to dispense with the middleman so long as he is effective, but first of all endeavoring to establish a reputation for their particular locality by rigid inspection, by advertising, and by selection of the quality of their output. By their faithful execution of contracts they will attract the best class of merchants and dealers. By working collectively they will be able to secure better prices and better terms from the merchant. Ultimately they will be able to secure a premium for their products, as contrasted with products from other sections equally as good, but indifferently known. They will finally be able to sell their entire product at a profitable figure when general market conditions are unfavorable and ordinary stock unsalable. Most interesting and successful attempts at co-operative distribution on the part of local or community organizations have been made among the creameries of Minnesota, Wisconsin, Illinois, Iowa, and many wheat firms of Kansas and Nebraska, but their success, indeed their vast existence, has apparently depended upon their being operated on a strictly mercantile basis. Not paternal, nor political, most of them corporations pure and simple, organized in many cases by bankers, managed in most cases by business men, and the farmer instead of displacing the merchant, has become a stockholder in a mercantile corporation.

Transportation.—While it is not the purpose of this paper to discuss the obligations of the transportation companies, it may be permitted to suggest in a general way that their part of the remedy is to be supplied in better equipment, better service, and possibly lower tariffs. We have recently been notified that the transportation companies will require shippers to increase the quantity to be loaded in their cars in order to secure the minimum rate of freight. We are told with the utmost candor that their freight cars are now constructed so as to carry double the load formerly hauled, and that they cannot afford to haul their cars with half capacity. If the transportation companies are now able to haul so much heavier loads and cars of larger capacity, the shipper has a right to inquire if he is not entitled to a portion of the saving.

The merchant has failed to do his part chiefly because he has misled the trade with respect to crop and market conditions. In his anxiety to sell he has been too willing to spread ill-founded rumors on short crops and advancing markets. To stimulate a stagnant market he has often sold short, and if the market has gone against him, he has sometimes substituted goods of an inferior grade, relying on the strength of the market to protect him against loss. For these reasons dealers have become distrustful of California products, and are not to be blamed.

Dealers' Profits.—But as you would secure a remedy for present ills, do not deceive yourselves with regard to the amount of profit derived by the middlemen. You have heard that wholesale dealers in the East are thoroughly disgusted with the trade in prunes and raisins. They can make no money. It is equally true that the larger commission merchants, middlemen, if you please, have made little or no money, and in some places contemplate going out of the dried fruit trade and devoting themselves to their other more profitable lines. Possibly this suggests no terrors to the advocates of general co-operative control, but it will suggest, at least, that the supposed condition of the market does not come from the extravagant portion popularly supposed to be going to the middlemen. It remains to be shown that machinery to be employed by co-opera-

tive organization would be less expensive than that of the middlemen.

Local Organization.—In any case, the logical thing to do is to work up through local organizations. rather than attempting general co-operative control at the start. It is essential that an active and effective State organization should be maintained to secure favoring legislation; to disseminate information as to improved methods, as to crops and markets; to secure better facilities and better rates from transportation companies; to prevent misleading information or other abuses of merchants; finally, and perhaps chiefly, to advertise. The consumers' attention must be repeatedly called to our products. The plan suggested of having the railroad companies collect an additional $1 per ton on every shipment of dried fruit out of the State, same to be turned over to a representative State committee to expend in systematic and constant advertising, should have the enthusiastic support of every grower, every merchant, and of this and every other organization of growers in the State.

The suggestion made in Mr. Sprague's most excellent paper with regard to local co-operative units forming by representation a governing body to control the sale of such fruit products as prunes, may work out in time, but those who have been active in the management of similar organizations in the past have been forced to the conclusion that there are too many conflicting interests at the present time, too wide a diversity in the quality of the goods, as well as in the cost of production, to justify immediate efforts in this direction.

Plato's Merchant.—In the selection of citizens for his Ideal Republic, Plato says: "Suppose a husbandman or artisan brings some production to market, and he comes at a time when there is no one to exchange with him—is he to leave his calling and sit idly in the market place? Not at all; he will find people there who, seeing the want, undertake the office of salesmen. In well ordered States they are commonly those weakest, not bodily strong, and therefore of little use for any other purpose. Their duty is to be in the market and to give money in exchange for goods to those who desire to sell, and to take money from those who desire to buy. Those who wander from one city to the other are called merchants."

Our improved means of communication since Plato's day makes it unnecessary for the merchant to wander, but perhaps this definition may apply to the much despised merchant in other respects more closely than at first appears. May it not be the part of wisdom for the farmer to spend his best effort in improving the quality of his products and in reducing the cost of production, letting the poor merchant, who, as Plato says, "may not be fit for anything else," attend to the buying and selling.

CEREAL CROPS.

Rye in the United States.

California has indulged in rye to about the extent that the traffic will bear, as the grain goes well on lands where conditions are too trying for wheat or which have become somewhat tired of wheat. The extent to which rye can be profitably grown is quite sharply limited by the local demand, as the grain does not figure in export nor is it likely to. Orange Judd Farmer gives a review of rye in the United States which is of wide interest. The low average per acre for rye in California shows that we have been trying to grow rye on rather hard places.

A Stable Crop.—The change in volume of the production of rye from year to year is so small as to mark it as probably the most stable farm crop. The acreage continues almost uniform at a figure not far from 2,000,000 acres each year, and the difference between the largest area ever reported and the current area is only a little more than 3,000,000 acres. The crop received a little more attention during the decade from 1880 to 1890 than at any time before or since; but the difference was not sufficiently marked to indicate any radical change in cropping.

The fact that rye is the principal bread cereal for a large proportion of the population of the world makes its neglect in American agriculture a striking indication of international differences in dietic tastes. While the Russian peasant and small German farmer subsist almost entirely upon this grain, there is no population in our country which regards it as its principal bread grain; in fact, about the only use which is made of rye for human consumption as food in this country is its occasional appearance upon the table as a variation from the regular bread grain. In spite of the large percentage of foreign population which we have, drawn heavily from rye-eating countries in Europe, there is no indication of any increasing use of the grain, it being evident that those people who at home were rye consumers, when they reach our shores prefer wheat as their staple. The stationary character of rye production during the last two decades, when taken in connection with the rapid increase in population and consuming ability, indicates that the per capita supply of rye is steadily decreasing. The bulk of the crop now grown is used in the production of distilled spirits and for feeding purposes. The demand for grain for purposes of distillation is moderately uniform; but, as it has no special advantages over other forms of grain for feeding purposes, there is little probability that the crop will ever become one of importance to American farmers.

The crop yield this year is slightly below the normal, but is larger than was expected early in the season, threshing returns having demonstrated in the case of this grain, as in practically all others, that the final outturn was larger than appearance of the fields would indicate. The rate of yield is comparatively uniform in the districts of principal production, which are New York, Pennsylvania, Wisconsin, Michigan, Minnesota and Nebraska. The average for the country, according to the final returns of our country correspondents, is 15.1 bushels, making a total crop this year of 30,286,000 bushels, grown upon 1,991,000 acres.

The following table presents estimates of the acreage of rye, yield and product, by States:

ACREAGE AND PRODUCTION OF RYE 1904.

	Acres.	Per Acre.	Bushels.
New York	156,000	15.1	2 356,000
Pennsylvania	358,000	16.0	5,728,000
Texas	4,000	13.5	54,000
Arkansas	3,000	10.0	30,000
Tennessee	14,000	12.1	169,000
West Virginia	14,000	12.7	178,000
Kentucky	16,000	13.2	211,000
Ohio	17,000	16.5	281,000
Michigan	161,000	13.0	2,093,000
Indiana	35,000	14.9	522,000
Illinois	73,000	17.2	1,256,000
Wisconsin	354,000	17.0	6 018,000
Minnesota	111,000	17.1	1,899 000
Iowa	76,000	17.7	1,345,000
Missouri	21,000	14.0	294,000
Kansas	77,000	12 5	963,000
Nebraska	158,000	16.0	2,528,000
North Dakota	31,000	19.1	592,000
South Dakota	38,000	16.0	609,000
California	68,000	8.0	544,000
Oregon	11,000	15.2	167,000
Washington	3,000	20.0	60,000
Oklahoma	4,000	10.0	40,000
Other	188,000	12.5	2.350,000
Totals	1,991,000	15.1	30,286,000
1903	2.133,000	15.4	31,822,000

FRUIT PRESERVATION.

Citrus By-Products.

By Mr M. B. Curtis of Ontario at the Pomona Farmers' Club.

It is hardly necessary for me to call your attention to the large and constantly growing list of by-products in almost every line of industry. They are a part of, and an important part of, our industrial development. Perhaps in no industry has there been so thorough utilization of what was once waste, as in the great meat packing establishments, of which it has been tritely said, "nothing gets away but the squeal." Paraphrasing in regard to our citrus industry, it is perhaps not inapt to observe that our citrus growers have to squeal because so much gets away.

Waste Fruit.—Last year the loss was exceptionally large. The crop was large, and in many localities was poor in quality. There was also an excessive amount of culls. Mr. Dreher thinks that 2500 carloads is a conservative estimate of the cull oranges for southern California. A much greater quantity than that was lost from over-ripe fruit dropped in the orchard, because conditions in the East did not warrant heavy shipments during the early part of the season.

It is also safe to say that there were shipped to Eastern markets 2500 carloads of low-grade fruit that brought but little more than freight charges—and often less. This fruit not only brought little financial return, but was actually a source of loss, displacing, as it must have done, an equal amount of higher-grade fruit that could have been sold at a good profit. Mr. Harwood, president of the Southern California Fruit Exchange, thinks that probably there are 500 carloads of culls, small and low-grade lemons every year that, if they could be manufactured into some form of by-products that would net the grower even ½ of a cent per pound, would solve a problem that is often perplexing.

Low-Grade Fruit.—Many carloads are annually disposed of that do not pay more than packing charges. Think for a moment what it would mean if the market could be relieved of these 3000 cars of low-grade fruit. Would it not have a tendency to stiffen prices? Would we not think we had struck a bonanza if we could find a market for 3000 cars of fruit? Nor is this the only source of loss. Cull oranges often decay in the packing houses, producing millions of decay spores. Undoubtedly many of these find lodgment on good fruit and only await favorable conditions of heat and moisture in transit to cause decay, or the boxes in which the culls decayed are sent out and used as picking boxes, spreading decay in this way. The great piles of culls in wash and field are also a menace. The spores may be carried by the wind to near-by orchards and find lodgment on the unpicked fruit.

Near Los Angeles, I am informed, the peddlers sort over the cull piles in the washes, select the best and take them to Los Angeles, where they are polished up and hawked around the streets. No wonder tourists complain of the poor quality of our fruit.

Many boxes of culls are sold to peddlers to be sold in the same way. Our local markets are valuable and our best fruit should go to them. However, so long as no way is provided, culls and low-grade fruit will continue to be dumped in Los Angeles and San Francisco to our great loss.

Past Failures.—But, it is objected, several by-products factories have been established and have failed, or at least were only partially successful. In reply, I will say that in the very nature of things they were doomed to failure. Organized in a small way and solely for the profit of the owner, buying their raw material in the open market at the lowest possible price, there was no inducement for the grower to furnish the raw material. There was only partial utilization; the plants were too small to pay a profit on a small margin. The key to the successful utilization of our citrus culls is co-operation on a large scale.

The growers who have the raw material must organize in connection with our citrus exchanges and manufacture our own waste fruit, and it must be done on a large scale. We are now annually importing into the United States nearly $400,000 worth of citrus by-products, mostly oil of lemon and orange, which we ought to produce right at home. And we can do it, too, if we set about it.

A Conference.—It was my privilege to attend the State Institute at Berkeley. A few of us got together at the close of one of the sessions and talked the matter over. Dr. Shaw and Professor Hilgard were with us. They expressed great interest and promised their hearty co-operation, in fact Dr. Shaw has already done some experimental work and is anxious to follow the matter up. I asked Professor Hilgard if there was anything lacking in our fruit that would make it unprofitable to extract oil or prevent their profitable use for other by-products. He said no, it is simply a question of inventing machinery to do the work quickly and cheaply.

Oil of Lemon.—It may be of interest to you to know that oil of lemon is extracted entirely by hand in Italy. The lemons are put in tubs of water. A man with a curved knife seizes them and with three strokes of the knife removes the rind. Women and children press this rind against a concave instrument having short points set thickly in its surface. These points break the oil cells. The oil collects in the hollow handle, which from time to time is emptied. After the cells are broken the pieces are pressed against a sponge to more thoroughly extract the oil, which is squeezed from the sponge by hand.

Thus you see the foreign method of extraction is slow and laborious and depends for the success on cheap labor.

With us labor is comparatively dear. We must, therefore, invent a machine to do the work, one that works automatically, quickly and thoroughly. The whole process hinges on the machine, from the extraction of the oil, the slicing of the fruit and extraction of the juice to the final bottling of the finished products. From my study of the matter I am convinced that such machines can be made, simply and cheaply, that would employ well known mechanical principles.

Orange Products.—I have had some correspondence with a New York chemist on the subject of by-products. He thinks there is a good opening for the manufacture of a healthful temperance drink from oranges. He claims that his associate has spent a lifetime in experimenting in the preservation of fruit juices. He claims that they have samples of juices, perfectly pure and sweet, that are over ten years old. He claims the orange juice by that process can be preserved indefinitely pure and sweet; the process is inexpensive, costing not to exceed 10 cents per pound. He is emphatic in saying that the success of such an enterprise would depend, first, on putting on the market an A 1 product, be it juice, marmalade, oil or any other; second, that there should be one main, central plant for final manipulation and purification; third, that the business be conducted on a large scale. The extraction of the juice and the oil could be done at various packing houses and only the partially condensed product shipped to the central factory.

We already have our citrus exchange system. The by-products system could be easily grafted upon it. We also have our marketing system with our paid agents. Through this system we could market our by-products at a minimum of expense. The fact that the product was put up by the exchange system would be a guarantee of purity and quality and would at once give us a standing in the market.

A Suggestion.—In conclusion, I would suggest that the indirect advantages accruing from the utilization of our cull and low-grade fruit, by removing from the market the cheaper fruit and enlarging the market to a very great extent for the better fruit, the prevention of decay and a very great saving in freight for the condensed products, should not be overlooked in considering the problem. I also suggest that our exchanges might profitably vote a quarter of a cent

per box for the coming crop to pay for experimentation. Certain it is, that if we hope to arrive at any valuable conclusions we must do something more than talk or theorize. We can't get something for nothing. While our State University stands ready to help us, it has no funds available for this work on any extended scale. I trust that this matter will be taken up with vigor, and preliminary work begun at once.

While our orange crop is not so large as last year, we are up against two facts: The first is that this year's apple crop is the largest on record, and apples are our chief competitors. The second is that there is a very serious unemployed problem in the East, and coupled with this an increased cost of living, which Dunn's say is 30% higher than it has been in twenty years.

THE POULTRY YARD.

Mating of Buff Orpingtons.

To the Editor:—Frequent inquiries coming to me—many of them from customers through the Pacific Rural Press—regarding mating of birds of my breed, I can answer many of them in a general way if I may be allowed space in your columns.

It is usually supposed that the proper mating of solid colored birds to produce desired color is a simple matter, and with the white varieties this is true to a greater extent than with buff or black.

In all buff varieties we find both black and white in some specimens, black only in others, and only white in still other birds, and it is the constant cropping out of these objectionable features that gives the careful breeder enough to do to keep them down, while secking to improve the plumage as a whole, striving for the pure, even shade of golden buff throughout demanded by the standard of perfection.

In selection of the fowls to be mated, many things have to be considered—not color alone, as with this must be found the typical shape and carriage of the breed, or the color, if perfected, counts for nothing; having lost the shape and other breed characteristics, there is nothing left but just a buff chicken.

Keeping in mind, however, that shape is first and foremost, one can then build as to feathering—not suddenly, as nature cannot be coerced, but willingly lends her aid along natural lines, and can be coaxed to a great extent. Remembering this, then, do not mate birds of extremes in color. If, for instance, the male has many desirable points and an excess of black in tail or wings, do not seek to eliminate this by mating with very light females, as the offspring will be worse than either of the parents. Seek rather a female that is dark and with some general indication as to color, but modified as compared to the male bird, and with the most promising chick from such mating endeavor the next year by mating in the same manner to produce more uniform results, being careful that there is no strong inclination to white, for, as one prominent breeder puts it, "white is bad, but both black and white in some sections is four times as bad as one foreign color alone." It is conceded by most breeders of buff varieties that a little black is desirable, showing that the specimen still holds strength of color and will not breed birds with a washed-out look. With breeders of show specimens the double mating system is practiced some, as well as among breeders of parti-colored breeds, as results are quicker and a larger percentage of choice specimens may be expected as a result of the special matings. In brief, as to double mating referred to, medium dark females mated to a male bird inclined to light color should produce a large percentage of desirable pullets, while the cockerels will be lacking. Females of nice, even shade of golden buff mated to a cock bird rich in color—not red, but inclining to rich orange—will give the greater number of chicks from such mating desirable cockerels.

For general purposes on the average farm, however, the alternating of males would probably give results satisfactory on the whole. For the breeding pen in this case select the most desirable hens as to color and desirable points in other directions, as nearly uniform in color as possible, and with these mate three cocks, one of a light, even buff, inclining to lemon, one a brilliant, strong buff, and one a rich orange buff, alternating by giving one day's service with two days' rest. This is a simpler way of double mating with one pen, and is practiced by many breeders of note. One caution regarding haste in an endeavor to breed out the black is here given: Do not be in a hurry, as too sudden or abrupt measures will only result in disaster and a year's work lost.

I might go on indefinitely, touching upon the finer points of prepotency and line records, but this would be of but little interest to most readers here, and the fancier gets such matter from works upon the subject. Briefly, however, the close observer notes each generation and selects such birds for breeders as have descended from individuals with strong characteristics regarding color in a particular section, or as a whole will find his work much easier than that of another who observes less closely and finds himself all at sea when mating his fowls at breeding season.

W. S. Sullivan.

Agnew, Cal.

Nisson Colony House Improved.

A description of a roosting house favored by many of the poultry raisers around Petaluma is given by the Journal. In speaking of the Nisson colony house Mr. Lutz says: "They answer the purpose very well. I do not think they could be improved to any great extent where chickens are scattered over a wide range."

The dimensions of the original colony house made by Mr. Nisson are as follows: They were 7x10 feet; posts, 3 feet: rafters, 5 feet; runners, 2x6 inches by 12 feet; posts at each corner and one in center of sides; rafters resting on posts. The houses were boarded around instead of up and down, with no floors. The ventilation was the 6-inch space at each end, being the depth of runners, and what little air space was afforded by the laying of a shake roof. This was the original Nisson colony house, having no floor, only dirt, which in the winter season was unusually uncomfortably muddy, with the wind blowing underneath, and often water running the whole length.

Some cleaned these houses by hauling the house its length ahead, but sometimes the land was so miry that moving was impossible and the houses had to remain in these filthy places for weeks at a time. I have seen weakly fowls come to these houses for shelter, and being too weak and wet to fly up on the roosts they were obliged to stand in the mud and wind blowing underneath until they perished with wet and cold. Any business man would soon see there was something wrong and go about making things right and getting his hens comfortable by controlling ventilation, by getting the fowls out of the mud, water and cold winds, and by shaping up the houses so that they could be kept clean and the air pure.

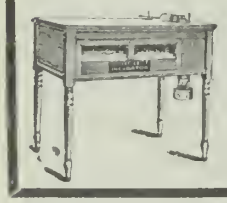
I first closed up the 6-inch space at each end and made a slide door in one end for the access of fowls. I filled the houses with dirt 6 inches above the level of the ground. This dirt floor was an improvement, but was bad about cleaning, as the fowls burrowed in the dirt, making the floor uneven. The rats also used it as a refuge. Before the next winter I put in rough redwood board floors, with lath under each crack, so as to prevent any air coming up. I then let air and light underneath, but never permitted fowls to have access. The object of the space under each house was to allow a rat dog under it, then, too, I could see to shoot anything like rats, weasels or skunks that might come. With board floors and all ventilation in the same end that the slide door is in, and with my bin of dry dust for winter, I can keep these houses clean and comfortable any season of the year. The Nisson colony house is good.

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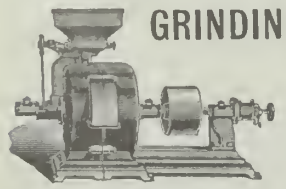
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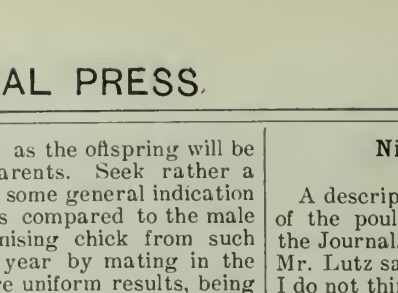
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Agricultural Review.

Butte.

SHIPMENT OF OLIVES.—Oroville Register: Residents of Palermo have sold almost all their olives this fall to the Los Angeles Olive Company. The olives are picked and shipped in water from Palermo to Los Angeles, where they are pickled for the trade. Growers in Palermo are getting this season $60 a ton for their olives delivered at the depot.

Los Angeles.

HARDLY WARRANTS PICKING.—A Los Angeles dispatch says: Fresno, Oroville and the country about Sacramento report a partial crop of olives, although far short of last season. From San Bernardino to San Diego there is not one orchard in ten which has enough fruit to pay for the picking, and in consequence the oil factories and pickle works, which ought to be running day and night with hundreds of hands employed, are doing nothing. One of the largest handlers of olives in Los Angeles county, when asked if his house was handling any olives, said: "No, and we do not expect to. So far we have had no offers of fruit, and if there is any to be had we do not know where it is. Usually we pickle several hundred tons and work up into oil several hundred tons more. Last year our plant was taxed to its utmost, and we were compelled to throw away a considerable quantity of fruit which we had bought and paid for, but were unable to handle for lack of capacity." Olive growers have come to expect a good crop only every other year, but so nearly a total failure seldom occurs, and already the effect has produced a hardening of prices on olive oil. The factories do not expect to be able to supply the demand, and are asking about 10% more for their goods than they were sixty days ago.

CLOSE OF FUMIGATING SEASON.—Pomona Progress, Dec. 1: The fumigating firms of Mead & Svenson and Shafer & Deck are finishing up a busy season's work which commenced early in August. They have fumigated hundreds of acres, the territory extending as far east as Ontario and west to Covina. Mead & Svenson have been running two crews through the season. Fifteen thousand trees were done on the Richards ranch alone. The orchards in this locality are generally in a clean and healthy condition. Many ranchers are hoping that the scale destroying scutellista, many colonies of which are now thriving in southern California, will have increased to such an extent in a few years that the heavy expense of fumigation will be overcome.

Mendocino.

FINE APPLE CROP. — Beacon: The Caspar Lumber Co. harvested 5000 boxes of apples from its orchard this year. The building, formerly occupied hy Frank Kelly as a store but at present utilized by the company as a warehouse, is filled to the ceiling with long tiers of apple boxes awaiting shipment. The best grades are wrapped in tissue paper and make a very handsome appearance, and command a fancy price. The company's orchard is situated some distance hack from the coast and is on land formerly covered with redwood timber. It is now a well established fact that redwood land cannot be excelled for the successful growing of apples, and this orchard is certainly a good example of the adaptability and productiveness of redwood soil.

SECOND CROP OF FRUIT. — Ukiah Republican Press: Dr. George McCowen refuses to be outdone by stories of the remarkable growths this year of second crops of fruit and berries. He presented a bouquet of raspberries Monday morning—that is, the vines were tied in the form of a nosegay, but instead of flowers, hung full of luscious fruit. They were beautiful yellow berries of a large size and very delicate flavor. The doctor states they were a finer berry than the regular crop.

San Benito.

IRRIGATION PROSPECTS. — Hollister Bee: W. T. Garrett of San Francisco, who has an option on the Hollister Irrigation Co.'s plant, will soon have his engineers in the field examining the watersheds, reservoir sites, etc. Mr. Garrett proposes to construct storage reservoirs which will enable him to furnish water for the irrigation of the entire valley in sufficient quantity for all purposes. Mr. Lippincott, the Government engineer, will soon be here to establish a Government station to measure the flow of water in the San Benito river. From 30,000 to 40,000 acres of the most productive land can be irrigated by the system.

San Joaquin.

UNWATERING FLOODED LANDS.—Lodi Herald, Dec. 3: The unwatering of the Sargent tract at Terminous is progressing very favorably, according to George A. Atherton, the engineer of the district. He stated that the water was being lowered ⅝ inch a day. About 120,000 gallons of water are being lifted every minute. The pumping outfit consists of three 26-inch, two 15-inch and one 36-inch pump. With only average rains the water should all he lifted by the middle of January.

GRAPE GROWERS PLAN TO BUILD THEIR OWN WINERY.—Lodi Special to the Sacramento Bee: A move has been instituted for the erection of a co-operative winery at Woodbridge, by which the growers expect to make wine grape growing a paying business. The association is to be incorporated for $200,000, at $100 a share. Of the total number 1902 shares have been subscribed, and those behind the scheme have no hesitancy in saying that the required capital will be easily secured. Each vineyardist entering into the proposition agrees to take one share for every acre of wine grapes he owns, each share of stock representing $100. He also agrees to sell all the vintage of his vines to this winery at the current market prices for wine grapes. Some of the largest grape land holders in this section of the county are interested in the deal.

PUMPKIN WEIGHS 110 POUNDS.—Stockton Record: There is a pumpkin on exhibition at the Chamber of Commerce that stands 2½ feet high and weighs 110 pounds. The monster was raised by Daniel C. Middlekauff, within ½ mile of Linden. While the pumpkin is a whopper, the grower declared he had one just a third larger, but he "busted" it in attempting to load it into a wagon.

BIG YIELD OF POTATOES.—Lodi special to Sacramento Bee: The yield of potatoes on the reclaimed land west of Lodi is going to be the heaviest ever known, the tubers running in some places 300 sacks to the acre, while the average yield is about 250 sacks to the same area. Most of the growers are keeping their potatoes, thinking that the market will he very strong during the winter months. Last year a number of them sold when their crops were dug up, and a few months later prices advanced considerahly.

San Luis Obispo.

PLEASED WITH BEETS. — Tribune: The Arroyo Grande farmers are more than pleased with the outcome of the sugar beet industry this year. It is thought the net proceeds will average something near $40 per acre. Mr. Edgar Ball had four and one-half acres in beets on which, after paying all expenses, he had a net income of $75 per acre.

Sonoma.

POULTRYMEN IN SESSION. — Santa Rosa Press-Democrat, December 4: At the regular meeting of the Sonoma County Co-operative Poultry Association, held Saturday, it was shown hy reports of the treasurer that the total receipts from all sources on account of the store in San Francisco, amounted to $1244.89, and the disbursements to $940.97, leaving a cash halance on hand of $303.92. This it was agreed should be paid back to the suhscribers of the honus pro rata. At the annual meeting the association elected M. B. Mac secretary and James Cahill treasurer.

WILL PLANT HOPS.—Dr. J. W. Clark, the owner of the old Temple place, will plant fifty acres of hops on the same and for this purpose has had the fruit trees removed. The land is excellent hop soil, and a large yield is predicted when the vines are in full bearing. J. C. Mailer, the local hardware man, has received seven carloads of wire which will be used by Dr. Clark and others in their hop yards for the trellis, high pole system of training hops. In the Farmer & Peterson yards the wire will be used extensively.

TRAMPED ON BY CATTLE. — Santa Rosa Republican: Andrew Jackson Mills, pioneer resident of Bennett Valley, was the victim of a serious accident, one which will in all probability result in the loss of his left eye. Mr. Mills was in the cattle corral milking his cows and was knocked down and trampled in the mud by one or more of the animals. He was in the midst of a stampede and when he was recovered from the band of cattle he was found to be seriously injured. The flesh under his left eye was torn open from the nose clear past the cheek bone. Across the bridge of the nose toward the right eye the flesh was also torn and lacerated. Whether Mr. Mills was kicked by one of the animals or whether he was caught in the face by horns cannot be ascertained. He does not know himself. He was covered with mud from head to foot when taken into the house hy his wife. Mr. Mills is 85 years of age.

Stanislaus.

TO PLANT THIRTY-ACRE WALNUT GROVE.—Modesto Herald: W. H. Parks, who, with Judge Hurlburt of San Jose, owns the former Hunsucker place of 175 acres at Empire in Turlock district, is setting out thirty acres of walnuts. If they do well, and Mr. Parks has every faith that they will, the grove will be extended to ninety acres. The Mayette (a French variety) and the Burbank (an American variety) are the selections. Mr. Parks has had experience with the Mayette in the Santa Clara valley and he is satisfied that the soil and the climatic conditions here are favorable not only for the production of this variety, but of the Burbank.

Sutter.

PRUNING COMMENCED. — Yuba City Farmer: Fall pruning is now well under way and the orchardists report a great plenty of strong buds on the trees and good prospects for the next season's crop. In the peach orchards especially the pruning will be severe, as the trees have made a fine growth.

WORK ON THE WEIR.—Within a week the work for this winter on the new weir at Butte slough will be completed, but there will probably be considerable yet to do on the same next year. The weir will be made solid ahout 10 feet above low water mark, which will confine the water to the river during the ordinary freshets and allow the flood water to flow over the crest.

Trinity

CHICKENS DIE FROM PTOMAINE POISONING.—Weaverville special to Sacramento Bee: Miss Bertha Drinkwater, a young woman of the Hay Fork country, 30 miles from here, arrived here yesterday and told a story of ptomaine poisoning which is almost without an equal. A few days ago she opened a jar containing corn which had heen prepared for the winter. The corn had the appearance of being spoiled, and Miss Drinkwater touched a portion of it to her tongue. Not being satisfied she took a larger portion, and immediately hecame convinced that it was unfit for use. She threw the contents of the jar out to the chickens, and in the morning forty-eight of the barnyard fowls were lying dead near the corn. Miss Drinkwater feared that she had taken too much of the poisonous suhstance and started immediately for Weaverville. Before arriving here her throat hecame parched and swollen and she became frightened. However, this condition passed away, and Miss Drinkwater returned to her home in good health.

Tulare.

PIPKIN CASE DISMISSED. — Visalia Delta, Dec. 1: The case of the people of the State of California against Randolph Pipkin, charged with burning a stack of hay belonging to Abner Frazer, was dismissed yesterday by Judge Wallace upon the motion of District Attorney McFadzean. The case has been tried twice and each time the jury disagreed, so Mr. McFadzean decided that there was no use to present the same evidence to another jury, though he considers it sufficient to convict if the jurymen only looked upon it as he does. Herman T. Miller, assisted by Charles G. Lamberson, defended Pipkin at the last trial. At the first one E. O. Miller was associated, but business prevented him from attending the last trial. Pipkin has been out on $500 bail furnished by his father, and yesterday the money was returned to Mr. Pipkin and the defendant made free.

FARMING ON THE LAKE LANDS.—Visalia Times: John Ellis, the Frazier valley rancher, who is located at Lemoore this season, putting in a crop of 5000 acres of grain on lake bottom land, came over yesterday and will return to-day, says the Porterville Enterprise. He says he has completed sowing 3200 acres and has about 2000 acres yet to sow. His earliest sowing, which was put in on wet land, is up and making a good growth. There is much volunteer wheat in that section of the country 1 foot high, and the wild geese are devouring it like a drove of hogs. Mr. Ellis states, however, that the geese and ducks are not doing the damage now that they have been doing. They are being hunted a good deal and there is no lack of fresh meat in that section of the country. Mr. Ellis killed seventeen geese not long ago with two charges from his double-barreled shotgun.

ORANGE CROP.—Lindsay Gazette: The most favorable conditions for the successful handling and marketing of our orange crop in the history of the industry in this locality is being experienced this season, and the past two weeks have been record breakers, the Lindsay packing houses having sent out 127 cars during the week previous to our last issue and 134 cars during the past week, and a total for the season up to noon yesterday of 398 cars. Not counting Sundays, which are off days, an average of 20 cars per day have been shipped during the past two weeks.

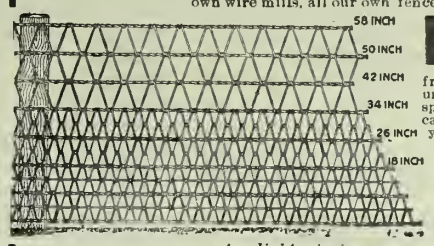
CANTALOUPES.—Exeter Sun: The cantaloupe industry bids fair now to become one of the big features in Exeter's material resources. From a small acreage first contemplated the proposed area here and at Lindsay for next year has already reached 600 acres, and by the time to begin planting there is not the least doubt that over 1000 acres of this particular fruit will be planted in this vicinity and shipped from Exeter. The proceedings of the growers have been very quiet, and their organization affected without any flare of trumpets. In fact, knowing that they had a good thing, they have kept still.

Yolo.

NO CHRISTMAS BERRIES ON DUNNIGAN'S HILLS.—Dunnigan special to Sacramento Bee: Perhaps for the first time, Christmas in this locality will not be resplendent with one of its features—and all because it rained and the sun shone and the season was changed from autumn to spring, with no intervening winter days. Holly herries are ripe; indeed, the season for them is almost past.

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We own all our own mines, all our own smelters, all our own wire mills, all our own fence-making machines The



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from the ore to the completed fencing, is made under direct supervision of one of the most responsible firms in the world. The enormous capacity of our great factories enables us to save you money and give you the best fence possible for money and skill to produce. The Ellwood Fence is as good looking as it is good—gives almost everlasting service—strong and of good weight. Every rod covered by a guarantee that guarantees. Our booklet—mailed free—tells much you need to know about how to put up a fence, the size of mesh, wire, height, etc., required for all purposes. Write today.

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Curb, Splint, Sweeny, Capped Hock, Strained Tendons, Founder, Wind Puffs, and all lameness from Spavin, Ringbone and other bony tumors. Cures all skin diseases or Parasites, Thrush, Diphtheria. Removes all Bunches from Horses or Cattle.

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Sold everywhere. Free trial sample for 2-cent stamp to pay postage. Write for booklet "How to Shave."

The J. B. Williams Co., Glastonbury, Ct.

The Home Circle.

Sweet Sorrow of Parting.

"Good night," he said; the parlor light
Was soft and dim and low.
"Good night," he breathed again; "Good night,
It's time that I should go."
She rose and smiled into his eyes,
Then slyly bent her head.
"Good night," he murmured, loverwise;
An then, "Good night," he said.

"Good night"—Ten minutes later, they
Were standing in the hall,
But he was on his homeward way.
"Good night"—he was so tall
Her head came barely to his heart,
And she was fair and slight.
"The hour has come for us to part,"
He said, and so "Good night."

"Good night"—A half hour had gone;
He had his hat and cane
And said that he must hurry on,
Then said "Good night" again,
"Good night," "Good night," "Good night," and so
"Good night" they ever sighed,
'T was really time for him to go;
"Good night"—the door swung wide.

"Good night," he said, and took her hand;
An hour or so went by;
"Good night"—They could not understand
The grayness of the sky.
"Good night," again, and then "Good night;"
Upon the steps they stood;
"Good night"—He kissed her fingers white,
As every lover should.

"Good night"—The eastern sky grew pink
As though about to blush;
"Good night"—The stars began to wink,
The breezes whispered: "Hush."
Soon on their ears there clanged a knell
That smote them with afright—
The ringing of the breakfast bell—
That time he said "Good night!"

—Chicago Daily Tribune.

In the Dolls' Kingdom.

Not since the day when the first wooden doll was fashioned in famous old Nuremberg has there been such a wonderful collection of dolls as are ready to be displayed for the Christmas holiday trade this year. To see this immense assortment is to conclude that every little girl in the western world is to have a doll, and also that the race of dolls has mightily increased in the past decade. The demands of modern childhood can best be realized by a study of the dolls of the day, for they constitute a kingdom of their own, and are a more important feature of the holiday trade than any other. True, there are miles and miles of mechanical toys, and tons of varied playthings for the boys and girls, but upon no other one toy is so much time and expense bestowed as upon dolls.

Germany, Switzerland and France are the great storehouses for dolls, and England and the United States are the two countries where they are most in demand. Every English and American girl expects and is expected to have gifts of dolls at Christmas, and so rapid has been the growth of the demand for them that no other department of the toy industry has kept pace with doll making.

One hundred and fifty years ago dolls were mere wooden images—when they were more than rolls of rags, with a piece of cloth, or a flimsy shawl, tied around them. Now they are classified under many heads by the trade, and have a nomenclature of considerable length. And where once there was no head to a doll, only a round ball tied at the neck, now dolls are classified according to the character of the head, and the price is invariably regulated by it.

Previous to 1860, dolls were made of wood for the most part; sometimes of kid, with long slender bodies. They were manufactured largely in the Hartz mountains, and this region is known as the toy country of northern Germany. Billions of wooden dolls are made there now. In the Tyrol are villages where no other industry is carried on, and in France great numbers of the better class of dolls are manufactured.

While Germany, Switzerland and France make the dolls, England is the great doll clearing house of the world. Nearly every doll made in Germany goes to England to be sold, and England ships a large proportion of her supply to the United States and to Australia, to New Zealand and to Canada.

Dolls have been known from very ancient days. Considering their antiquity, it is rather remarkable that no mention is made of them in the Bible. True it is that images are referred to, and dolls were once wooden images; but there is nothing said in the Bible in connection with images that would lead one to conclude that dolls were known in the days of Abraham, or even of the children of Israel. Still it may have been true that little girls had their make-believe babies and loved and cared for rag dolls long before the name they now bear had been given to them.

Almost every good collection of curiosities, from whatever race or tribe, contains specimens of dolls. Not only the Indian tribes of America, but the tribes of Egypt proves that these toys were in use generally. It is known that Greek children had dolls, and, when Europeans made themselves acquainted with India and China, dolls were found there. In the ruins in Yucatan of the ancient and cultivated Maya civilization some evidences of the existence of dolls have been found by explorers.

Our ancestors of the Middle Ages were familiar with dolls, for the puppet shows—in reality nothing more nor less than doll shows—were much in vogue as legitimate sources of amusement and received much attention and encouragement, especially in England and France. They were taken about the realm and exhibited to knightly gatherings in the halls of stately castles, and at all fairs and public gatherings.

The marionette shows of to-day are the successors of the puppet shows of yesterday, and the vast difference between the dolls used in these two shows indicates the wonderful stride made in the manufacture of dolls. From the simple wooden images, with their tawdry apparel, of the former to the gorgeousness of the modern marionette is a cycle of doll growth, and in view of the present cost and finish of the costliest dolls, extravagance, it would seem, cannot go further.

Dolls are now perfect in finish and in costumes, and the French people have long used them as models for the newest styles in women's dress—and to have the dolls elegant enough to wear the costumes of the fashionable designers, the doll makers invented ware and bisque heads that are marvels of beauty.

One town in France is given over to the business of making doll's heads—those beautiful heads that come to this country on the bodies of German or Swiss dolls, and into which are put the lovely glass eyes formerly made in England but now manufactured in Germany.

Lime and earth constitute the material out of which the bisque doll heads are made, and these materials undergo an immense amount of preparation before they become the liquid that is poured into moulds. After the many sizes of dolls' heads have been moulded, women and girls insert the eyes, affix the ears and prepare them for the final baking, which requires forty-eight hours.

After the baking process they are subjected to a cooling, then a polishing, and finally to a sand-paper treatment, which leaves them ready to have faces tinted, eyelashes, eyebrows and rosy cheeks painted. Then back to the oven go the dolls to bake for hours and hours more.

Finally, when they emerge from the factories, where they have cost so much patient effort and artistic ability to complete, the dolls are ready for the fine clothing that will adorn them. Little girls who become the final possessors of these dolls never have the faintest idea of the struggle it has been for their dolls to get born into the doll realm.

Wax dolls, after bisque and china dolls, are the costliest of the doll family, and England is their home. The wax of which the heads are made comes from the East Indies, for it has been proved that no other wax is so good for the purpose. And if at this season, when the manufacturers are busy day and night, careless little girls could see the process of making a wax doll, and particularly of putting its eyes in and its hair on, the immense amount of trouble it costs to make a doll might be impressed upon them, and they might be less reckless about smashing their dolls.

Doll's eyes are scientific creations. They are made like the artificial human eyes, and are expensive. The process is or would be most interesting if it could be known. But it is a trade secret and so jealously guarded that the work is carried on at night and under conditions that prevent its being learned by outsiders.

Each eye is separately blown, and there are three colors. It is not to be wondered at that they are costly, for they require great care in manufacture and the finest of materials.

Composition dolls and English rag and rubber dolls represent the largest families among dolls. The composition doll is for hard usage, and is made not of solid wax entirely, but of paper, with a wax covering. The hair is not human, nor, as the little girl says, real, but is jute or mohair.

The rag doll has a wax back, with a piece of linen stretched over the surface of the face, which makes the wax have a very soft and pleasant appearance. The rag faces are made separately from the head, but are fastened to the skull, which is part and parcel of the body of the doll.

The majority of rag dolls have a cap adjusted permanently to the head. The bodies are made of cotton goods stuffed with sawdust. Sometimes they have kid bodies, but usually they are of cotton. In England there are many large manufactories devoted entirely to the making of dolls, while the number of retail dealers is not known, so great is the list.

The clothing of dolls of late years requires as many manufactories as the making of dolls. Boots and shoes, stockings and gloves, hats and dresses, jewelry, equipages and complete wardrobes for all occasions keep thousands of working people occupied.

Of late years paper dolls have had an immense vogue, and they fill a want in the nursery and the school. But the real dolls, which can be dressed and undressed, can have carriages for children to roll in the streets and doll houses made as elaborate as are the human habitations from which they are modeled, lead in popularity.

At Christmas time the demand for dolls of every kind is so great that one wonders if all the children—even the boys—do not play with dolls, but, as a matter of fact, they do not. Not even in earliest childhood do boys care for dolls as babies. Sometimes a lad will enjoy the ownership of a sailor doll or a clown, but usually he will not agree to play with any kind, and cannot understand a girl's love for dolls. And he has not the least sympathy with the making of doll's dresses, the dressing and the undressing, and the deep devotion of girls to the general welfare of these toys.

Queen Victoria was the patron saint of dolls, and the real reign of the doll began when she was a little girl living with her aunt and was being trained for the throne. The lovable little blue-eyed Victoria was devoted to dolls from her infancy, and the English manufacturers vied with one another in making the most beautiful productions to submit to the inspection of her guardians.

Blue-eyed dolls were the rage in England during the entire lifetime of Queen Victoria. In every English home where there are young people there are dolls, and at Christmas time no present is quite so common.

The United States follows close in the footsteps of the English in respect to dolls, and the New York manufacturers and importers say that more money is spent in this country on dolls annually than in any other.

Until a few years ago dolls were imported, but now New York has its East Side factories, where people of all nationalities work at doll making. Bohemians, Hungarians and Poles work side by side in these East Side factories, and the manufacture of dolls is already a large industry, with constant expansion before it.

In the heart of the business district of New York is a factory where the kind of doll for which all parents seek, an indestructible doll, is made. And from this factory go out over the country the non-destructible article that reaches the average American home.

The composition of which these dolls are made is produced here, but the manufacturers have to send to Germany for the eyes. It is only a question of time before these will be made in the United States, for skilled workmen, attracted here by higher wages, will produce them.

In New York city can be seen the most varied and costliest display of dolls that is made in the world, and it is no uncommon sight to see show dolls in the large shops that are priced at one, two and three hundred dollars.

Last season much was said regarding the purchase, by a Western mine owner, of a doll that cost $350, and upon which he had placed earrings, rings, a watch and bracelets that cost him $200 more.

If the recipient of this doll provided a wardrobe, doll wagon and doll house in keeping with the elegance of her ladyship's personal appearance, $1000 could have been expended upon the doll easily. These are the exceptional incidents of dolldom. The average doll costs from $2 to $10, but there are millions bought that cost less.

The sizes of dolls have increased with the growth of the girl population. Children, like their parents, have large ideas and they want display commensurate with cost. So dolls are large, and it is only where the more extensive stocks are carried that one can buy dainty little dolls.

And mothers inculcate a love of dress in their little girls by adorning dolls in finery that Solomon in all his knowledge would not have dreamed of in his days. The doll has as many changes as the little maiden who possesses her and travels with her in a traveling costume, or goes to a party in a real evening dress, or on the street, for promenade, in a tailor-made suit.

It may be pleasant to the owners of such dolls to have Santa Claus bring them yet more varieties this Christmas, but the children of the poor enjoy as much their cheap little doll, given them from some public Christmas tree, and take as solid comfort in it as do the daughters of the rich, who are burdened with the care of many dolls and surfeited with the variety of their belongings.

The little Indian girls on the Western plains or the colored children of the South know as much satisfaction in the possession of a rag doll, made with an ear of corn or a gourd, and dressed in their old clothes, as do the little people of the great cities, who see so much and have so much that they never know the delight of owning but one doll.

This season, far more than any that has preceded it, the doll kingdom has

When Your Joints Are Stiff

and muscles sore from cold or rheumatism, when you slip and sprain a joint, strain your side or bruise yourself, Perry Davis' Painkiller will take out the soreness and fix you right in a jiffy. Always have it with you, and use it freely. USE

Painkiller

School of Practical, Civil, Mechanical, Electrical and Mining Engineering,
Surveying, Architecture, Drawing and Assaying.
113 FULTON ST., one block west of City Hall, SAN FRANCISCO, CAL.
Open All Year. A. VAN DER NAILLEN, Pres't.
Assaying of Ores, $25; Bullion and Chlorination Assay, $25; Blowpipe Assay, $10. Full course of Assaying, $50. Established 1864. Send for Circular.

been extended until it would seem that no child in this broad land of ours need go to bed on Christmas night without a doll. And let the parents of the nation see to it that not one of them does.—N. Y. Sun.

The Wanderer.

At drowsy dawn I left the gate—so very long ago,
Whether that home be memory or dream, I hardly know.

The cloud hung visions of the morn were far more real then
Than now are thronging city streets and cries of eager men.

The hours ere yet the sun was high were like eternities,
But now how swift the shadows run, how near the darkness is!

Ah, well! 'T is aye the happiest day comes swift to evensong;
With merrier comrades never yet did pilgrim pass along.

The paths that widest seem to part, still winding, turn and meet;
Perchance they do but homeward lead again our wandering feet.

Familiar faces vanish, but the voices vibrate still,
And nothing now seems far away, at the ending of the hill.

To one warm hand alone I cling, as fast the night grows late,
And crave that we may come at last together to the gate.

—William Cranston Lawton.

The Alligator's Indolence.

A Mississippi man is responsible for the following:

"Alligators live a long time and it takes them a long time to die. Formerly, on the Tombigbee river, there was for years a log at a shallow landing, upon which passengers were in the habit of stepping in passing from the river to the shore. At last the 'log' turned out to be an alligator. His final dying agonies occurred just as half a dozen passengers were walking along him to the bank. He heaved up, shook himself, and threw several ladies into the mud. One fat gentleman fell upon his hands and knees and the alligator spanked him so hard that the man flew through the air like a rocket and fell back upon the deck of the steamer. Imagine the surprise of those passengers! That alligator was 24 feet long and he had been five years dying."

The Mississippi negroes say that an alligator will sometimes prop his upper jaw on a stick about 2 feet high and go to sleep with his mouth open. Flies and other insects light upon the surface of the cool recess thus afforded, and frogs climb in after the flies. When the alligator has acquired a dainty mouthful he shuts his jaws and swallows.

Mare That Chewed Tobacco.

"One had a fondness for fresh meat; another gobbled up any old thing that came his way, bean soup, potato parings, stale bread or cooked meat; while the third, a small sorrel mare, actually had developed the tobacco habit." The owner obtained her in Texas, and says the mare was one that had been "captured" in the South during the civil war.

"She would carry me 50 miles a day," he continued, "then carry me back the next day if I wanted her to do it. I had her about two days when I found out that she chewed tobacco. She grabbed a small package of fine cut out of my hand, and then stood chewing it, paper and all. Seeing that it had not hurt her I kept her in tobacco, buying the leaf tobacco that all these Mexican stores sold here then, a large 'hand' of it for a silver dime. That would not have paid the duty on it had any been paid, but the collector had not got here yet. When he did come these men had to stop selling at any price. I never went near my mare without bringing her tobacco. If she did not get it right away she would begin to shove me with her nose, and kept it up until I gave her the usual chew.—Forest and Stream.

Domestic Hints.

CHEESE SOUFFLE.—Sprinkle the bottom of a pudding dish thickly with cracker or stale breadcrumbs, pepper and salt; then drop bits of butter over it. Next add a layer of chipped American cheese, and so on, alternating the layers of crumbs and cheese till the dish is filled. Over the top turn a lightly beaten egg. Set in the oven and bake for half an hour.

A BREAKFAST DISH.—Butter thick slices of bread. Separate the yolk and white of an egg, carefully preserving the shape of the former and beating the latter to a stiff froth. Turn this beaten white over the buttered bread, then put the round yolk in the center. Sprinkle salt and pepper over the whole and set in the oven to brown. This is not only very dainty to look at, but extremely appetizing as well.

BAKED SCALLOPS.—Trim the scallops well, after taking from the shells, wash the shells thoroughly, dry them and fill each with the scallops, cut in rather small pieces. Over each sprinkle salt, if needed, a few drops of lemon juice, some chopped parsley, and lastly some fine breadcrumbs, moistened with melted butter. The scallops should bake for about twenty minutes and be served on the shells.

MINCED MUSHROOMS.—Rinse, drain and dry the contents of one can of mushrooms, then cut into small pieces. In a saucepan melt two tablespoonfuls of butter, add one of minced onion and another of minced carrot. Cook two minutes, add the mushrooms, together with a dash of pepper and a pinch of salt. When this is cooked, say in about five minutes, stir in two tablespoonfuls of sifted flour and two cupfuls of tomato liquor. Allow the mixture to cook slowly until thick and smooth, then serve in pastry shells.

CREAMED DRIED BEEF.—One pound of thinly shaved beef, one-fourth teaspoonful of soda, one cupful of cream or milk, two tablespoonfuls of butter, two slight tablespoonfuls of flour, and salt and pepper to taste. Rinse the beef well in warm water, put in a stewpan, put over just enough water to cover, and add the soda to it (this counteracts the sour in the dried blood). Set the pan for half an hour on the back part of the stove, where it will keep only just warm, then turn off this water; put in the cream or milk, season and let come to boiling point. Cream the butter and flour together, add and let it boil up. Send it to the table in a covered dish.

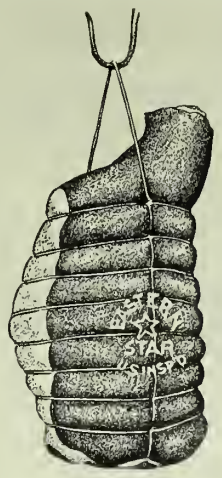
PRESIDENTIAL PUDDING.—Make up a dough, as for cream of tartar biscuits, and roll out about an inch thick. Spread thickly with butter and give a coating of white sugar. Over the whole turn blackberry or rasperry jam, or, better still, the fresh fruit in season, and, if not likely to be sweet enough, add more sugar. Now roll the whole carefully and as lightly as may be, pinch the ends and bake. When done serve hot in thick slices, with an egg sauce. The most delicious egg sauce, by the way, is made by adding a third of a cupful of boiled laundry starch to the thoroughly beaten egg and sugar. Flavor with vanilla extract.

If you have any trouble with lamps—any trouble whatever—send for my Index.

I know of no lamp-disease that it does not cure immediately.

Costs nothing.

MACBETH, Pittsburgh.



Ask Your Grocer
FOR THE
Best Ham
THE
Market Affords--
YOU WILL RECEIVE AN
"EASTERN STAR" HAM.
Western Meat Company,
SAN FRANCISCO.

RUFUS M. STEELE

has written a notable article on "How San Francisco Grows," which appears, with many fine reproductions of late photographs, in

SUNSET MAGAZINE
FOR DECEMBER

There are a dozen other fine articles in this number, together with **six good short stories** and much bright verse and attractive miscellany. It is a number which every Californian should not only read, but send to Eastern friends as a proof of Western progress. It is richly illustrated.

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GLENN RANCH,
Glenn County, - - California.
FOR SALE
IN SUBDIVISIONS.

This famous and well-known farm, the home of the late Dr. Glenn, "the wheat king," has been surveyed and subdivided. It is offered for sale in any sized government subdivision at remarkably low prices, and in no case, it is believed, exceeding what it is assessed for county and State taxation purposes.

This great ranch runs up and down the west bank of the Sacramento river for 15 miles. It is located in a region that has never lacked an ample rainfall, and no irrigation is required.

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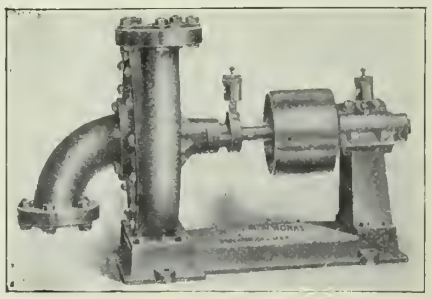
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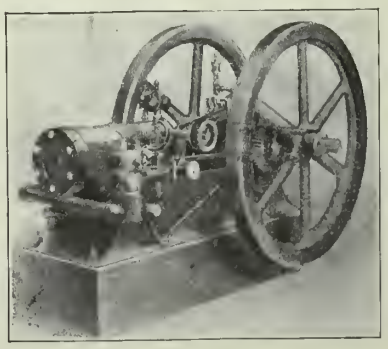
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The Markets.

San Francisco Produce Report.

San Francisco, December 7, 1904.

CHICAGO WHEAT FUTURES.

Wheat futures in Chicago were as follows for the week named, price being for No. 2 Red per bushel:

	May.	July.
Wednesday	$1 08¼@1 09¾	$ 97½@ 99⅞
Thursday	1 10⅜@1 09⅞	99¾@ 98⅜
Friday	1 09⅞@1 10¾	98¼@ 99¼
Saturday	1 10⅜@1 11⅜	99 @ 99½
Monday	1 11⅜@1 13½	99¼@1 00⅜
Tuesday	1 12¾@1 14	99⅝@1 01

CHICAGO CORN FUTURES.

Prices of futures on No. 2 corn per bushel in Chicago were as follows for the week:

	May.	July.
Wednesday	45⅜@45¾	45½@45¾
Thursday	45⅞@45½	45⅞@45¾
Friday	45½@45¾	45¾@45⅞
Saturday	45¼@45¾	45⅜@45¾
Monday	45¼@44¾	45⅜@45
Tuesday	44⅜@44⅞	44½@44⅞

SAN FRANCISCO WHEAT FUTURES.

The range of values in San Francisco for No. 1 White wheat per cental was as follows:

	Dec., 1904.	May, 1905.
Thursday	1 41 @——	$1 43⅞@1 43⅜
Frida	$1 40½@——	1 43¾@1 43⅛
Saturday	1 41⅛@1 41¼	1 43½@1 44¼
Monday	——@——	1 44¾@1 44½
Tuesday	——@——	1 44⅜@1 45
Wednesday	1 41½@1 41	1 43¼@1 43⅜

Wheat.

Not much doing in the local market, although in the matter of wheat clearances from this port, November made by long odds a better showing than any previous month the current season. The shipments of wheat last month aggregated 11,856 tons, valued at $343,200, while for the preceding four months the total shipments were only 9,000 tons, valued at $286,954. In November last year the wheat shipments were light, being 2,463 tons, valuo $72,240, and for tho season to December were smaller than for corresponding time this year, footing up 19,390 tons, value $546,782. Prices for spot wheat have continued quotably much the same as preceding week, but shippers are operating very lightly, having few vessels to provide for. Millers are bringing in wheat from outsido points, owing to scarcity of home product. Two French vessels arrived under charter, one for wheat at 20s., the other for wheat or barley at 22s. 6d., both destined to Europe, usual option. France is said to be in need of wheat and is reported buying in India and Australia. Chicago advices reported Argentine having withdrawn all offers of wheat for January and February shipment.

California Milling	$1 47½@1 57½
Cal. No. 1 shipping, alongside	1 37½@1 40
No. 1 Oregon Club	1 37½@1 42½

PRICES OF FUTURES.

During past week the range on options was:
December, 1904, delivery, $1.40½@1.41½.
May, 1905, delivery, $1.43⅛@1.45.

Wednesday, at the forenoon session of Exchange, December, 1904, wheat sold at $1.41½@1.41; May, 1905, $1.43¼@1.43⅜.

Ocean freights and prices for wheat, as compared with a year ago, are as follows:

	1903-04.	1904-05.
Liv. quotations	-s-d@-s-d	-s-d@-s-d
Freight rates	10½@11¼s	17@20s
Local market	$1 35@1 37½	$1 37½@1 42½

Flour.

There is a moderate movement and at generally unchanged values. Stocks are not of heavy volume, although amplo for immediate requiremonts. Much of the flour on the market is the product of mills outside the State, largely from Oregon, Washington and the Dakotas.

Superfine, lower grades	$3 25 @3 50
Superfine, good to choice	3 50 @3 75
Country grades, extras	4 25 @4 50
Choice and extra choice	4 50 @5 00
Fancy brands, jobbing	5 00 @5 25
Oregon, Bakers' extra	3 75 @4 25
Washington, Bakers' extra	3 75 @4 40

Barley.

Speculative operators have been trying very hard to depress prices for this cereal, but their efforts have not been attended with any noteworthy success. Stocks of barley throughout the State are comparatively light and less than a year ago, while prices are about the same. Any changes in values during the balance of the season should be to stiffer instead of to lower figures. The bears are banking mainly on the small fleet of ships now under charter and the increased acreage for next crop. The ships now under engagement represent a carrying capacity of 30,000 tons, and it is likely that most of this will be barley. Shipments the past week aggregated 8600 tons, including four clearances for Europe, one being a full cargo for Scotland, 3650 tons, valued at $85,800.

Feed, No. 1 to choice	$1 11¼@1 12½
Feed, fair to good	1 08¾@1 10
Brewing, No. 1 to choice	1 15 @1 21
Chevalier, No. 1 to choice	1 20 @1 25
Chevalier, common to fair	1 00 @1 10

Oats.

Values are ruling steady for ordinary feed qualities, which constitute the bulk of present offerings. Most of the recent arrivals are from Washington and are not of heavy proportions. Choice to select oats are in exceedingly light stock, either of white or colored varieties.

White oats, fancy feed	$1 45 @1 50
White, good to choice	1 37½@1 45
White, poor to fair	1 27½@1 35
Milling	1 40 @1 50
Black oats	1 30 @1 65
Red, fair to choice	1 25 @1 50

Corn.

Market is easier in tone, owing to increased supplies of Eastern. Not much California corn offering. Small Yellow is in such light supply that quotations for the same are largely nominal. Considerable corn is being shipped to Central America and Mexico, one steamer the past week taking 390 tons.

Large White, good to choice	$1 40 @1 45
Large Yellow	1 40 @1 45
Small Yellow	1 60 @1 65
Egyptian White	—— @——
Egyptian Brown	—— @——
Eastern, in bulk	1 32½@1 37½

Rye.

Spot stocks are small and there are no great quantities offering to arrive.

Good to choice	$1 42½@1 47½

Buckwheat.

A recent salo of a round lot was made at $1.65, but this grain was damaged.

Beans.

Market is firm for choice dry beans of all varieties, and holders not disposed to crowd sales of desirable stock. There are tolerably heavy offerings of wet beans, market for these being weak and irregular. Sales of damaged beans are mainly within range of $1@$2 per cental, as to variety and condition.

Pea, fair to good, 100 lbs	$2 90 @3 10
Small White, good to choice	3 15 @3 30
Large White	2 35 @2 60
Pinks	3 15 @3 35
Bayos, good to choice	2 50 @2 90
Red Kidneys	4 50 @5 00
Reds	4 00 @4 50
Limas, good to choice	4 10 @4 20
Black-eye Beans	2 50 @2 60

Dried Peas.

Market is practically bare of choice Peas of any variety. Some damp Green Peas are offering from Humboldt, and on these wholesale buyers are slow to bid much over $1.75.

Green Peas, California	1 75 @2 25
Garbanzos, Large	3 25 @3 50
Garbanzos, Small	3 00 @3 25
Niles	1 75 @2 25

Hops.

The local market shows much the samo condition as last noted. There is little doing in the way of transfers from first hands, and no evidence of holders being willing to grant marked concessions to effect sales. The last steamer for Australia carried 22,800 lbs. hops, mainly for Sydney. Tho New York Producers' Price Current says: "The market generally continuos to present a quiot appearance. Very little is doing in New York State and growers are beginning to show a little more anxiety to sell, but refuse to make any concossions in prices for choice hops. Quiet markets are also reported from Europe."

California, good to choice, 1904 crop	27½@31

Wool.

Owing to tho absence of noteworthy offerings in this center from first hands, thero is little at present upon which to base quotations. Values for tho time being are consequently poorly defined. All Eastern and foreign markets are quoted strong. There is every prospect that good to choice California wools of coming clip will command materially better figures than did the same grades the past season.

SPRING.

Northern, free	23 @—
Northern, defective	17 @21
Oregon, good to choice	20 @23
Nevada	16 @21

FALL.

Northern	15 @19
San Joaquin and Southern, free	13 @16
San Joaquin and Southern, defective	9 @11
Southern lambs, as to quality	9 @14

Hay and Straw.

Market for hay is slow and for the general run of offerings is lacking in firmness. Although receipts are not of heavy volume, there is more than enough coming forward to accommodate the existing demand. Outward movement is light, inquiry being mainly on local account.

Wheat, good to choice	$12 50 @ 14 50
Wheat and Oat	12 00 @ 13 50
Tame Oat, fair to choice	8 00 @ 13 00
Wild Oat	8 00 @ 10 00
Barley	9 00 @ 11 00
Alfalfa	9 00 @ 11 50
Stock hay	6 00 @ 7 50
Compressed	12 00 @ 15 00
Straw, ₱ bale	40 @ 65

Millstuffs.

A very fair demand is being experienced for Bran and Middlings, with stocks only moderate, and market is tolerably firm at prevailing values. Rolled Barley is being very steadily held. Tendency on Milled Corn has been to slightly easier figures.

Bran, ₱ ton	$18 50 @ 19 50
Middlings	24 00 @ 27 00
Shorts, Oregon	19 00 @ 21 00
Barley, Rolled	24 00 @ 24 50
Cornmeal	31 00 @ 31 50
Cracked Corn	31 50 @ 32 00
Oilcake Meal	31 50 @ 33 00

Seeds.

Alfalfa Seed on the market is mainly Utah product. The Utah crop this year was struck by frost while in the bloom, and is consequently being urged to sale from both first and second hands, not being considered desirable stock to carry into another season. Market for Mustard Seed is moderately firm, offerings being light.

Flax	$1 75 @ 2 25
Mustard, Yellow	3 50 @ 4 00
Mustard, Trieste	4 50 @ 5 00
	Per lb.
Alfalfa	12 @13
Canary	6¼@ 6¾
Rape	1¾@ 2¼
Hemp	3½@—
Timothy	5 @ 5½

Honey.

The German steamer Memphis, sailing Saturday, carried 225 cases Extracted honey of common quality, such as is used in the manufacture of honey cake. The local demand is light. In some instances concessions are being made to effect sales.

Extracted, White Liquid	6 @ 6½
Extracted, Light Amber	4½@ 5½
Extracted, Amber	3¾@ 4¼
Extracted, Dark Amber	3 @ 3½
White Comb, 1-frames	11½@12½
Amber Comb	9 @11

Beeswax.

Spot stocks and offerings are of slim proportions. There is a fair demand at current rates.

Good to choice, light ₱ lb	29 @30
Dark	27 @28

Live Stock and Meats.

Beof in prime to choico condition is in fair request and current values are being well maintained. Veal of desirable size is meeting with prompt custom at slightly better figures than quotable for some weeks past. Market for Mutton is showing firmness; there is no special scarcity of offerings, but a good demand for choice. Lamb values are without radical change, but market is quite firm for the best. Hog market continues strong, receipts being light and no lack of demand.

Allowing for the shrinkage of about 50%, which is exacted in buying cattle on the hoof, live cattle command as much or more per pound than dressed beef, the shrinkage exacted being the slaughterers' profit.

The following quotations for beef and mutton are based on prices realized by slaughterers from wholesale dealers:

Beef, 1st quality, dressed, net ₱ lb	6½@ 6¾
Beef, 2nd quality	5 @ 5¼
Beef, 3rd quality	4 @ 5
Mutton—ewes, 6½@7c; wethers	7 @ 7½
Hogs, hard grain, 140 to 250 lbs	5⅛@ 5¼
Hogs, large, hard, over 250 pounds	4⅞@ 4¾
Hogs, small, fat	4¾@ 5
Veal, large, ₱ lb	6 @ 7
Veal, small, ₱ lb	7 @ 9
Lamb, spring, ₱ lb	8 @ 9½

Hides, Skins and Tallow.

Hides are in good request and market is firm at current rates. Pelts are in fair demand at quotably unchanged figures. A shipment of 108,200 lbs Tallow went forward the past week by saling vessel for Liverpool.

Nothing but sclect hides, clean and trimmed will bring full figures. Culls of all kinds, either from grubs, cuts, hair slips, side brands or murrain, are not always readily placed at the lower figures.

	Sound.	Culls.
Heavy Steers, over 56 lbs	— @11	— @10
Medium Steers, 48 to 56 lbs	— @10	— @ 9
Light Steers, under 48 lbs	— @ 9½	— @ 8½
Heavy Cow Hides, over 50 lbs	— @ 9½	— @ 8½
Light Cow Hides, under 50 lbs	— @ 9½	— @ 8½
Stags	— @ 7	— @ 6
Wet Salted Kip	— @10½	— @ 9½
Wet Salted Veal	— @11	— @10
Wet Salted Calf	— @11½	— @10½
Dry Hides	— @17	— @16
Dry Kip and Veal, 11 to 16 lbs	— @15	— @13
Dry Calf, under 4 lbs	— @20	— @18
Pelts, long wool, ₱ skin	1 00	@1 50
Pelts, medium, ₱ skin	70	@ 90
Pelts, short wool, ₱ skin	40	@ 65
Pelts, shearling, ₱ skin	15	@ 30
Horse Hides, salted, large prime, each	3 00	@——
Horse Hides, salted, medium	2 50	@——
Horse Hides, salted, small	2 00	@——
Horse Hides, dry, large	1 75	@——
Horse Hides, dry, medium	1 50	@——
Horse Hides, dry, small	1 00	@——
Tallow, good quality	4	@4½
Tallow, poorer grades	2½	@3½

Bags and Bagging.

Market is dull and featureless. In quotable values there are no changes to note.

Bean Bags	4¾@5
Fruit Sacks, cotton	6½@7½
Fruit Sacks, jute, as to quality	5¾@7
Grain Bags, Calcutta, 22x36, spot	5¾@5½
Wool Sacks, 4-lb	32 @——
Wool Sacks, 3¼ lb	30 @——

Poultry.

Owing to the heavy receipts of Eastern poultry, fully eight carloads arriving within the week, mainly Chickens, the market was slow and lower for nearly all kinds of California Chickens, choice Broilers being about the only exception, these being in light supply. Tendency on Turkeys was to more firmness, due mainly to limited offerings of choico stock rather than to any active demand. Ducks and Geese brought fully as good prices as previous week. Pigeon market was firm for choice Young.

Turkeys, Dressed, choice, ₱ lb.	$ 20 @ 23
Turkeys, live gobblers, ₱ lb	16 @ 18
Turkeys, live hens ₱ lb	16 @ 18
Hens, California, ₱ dozen	4 00 @ 4 50
Hens, large	5 00 @ 5 50
Roosters, old	4 00 @ 4 50
Roosters, young (full-grown)	4 50 @ 5 50
Fryers	4 00 @ 4 50
Broilers, large	3 50 @ 4 00
Broilers, small to medium	3 00 @ 3 50
Ducks, old, ₱ dozen	5 00 @ 6 00
Ducks, large young, ₱ dozen	6 00 @ 8 00
Geese, ₱ pair	2 00 @ 2 25
Goslings, ₱ pair	2 25 @ 2 50
Pigeons, old, ₱ dozen	1 25 @——
Pigeons, young	2 25 @ 2 50

Butter.

Market for desirable qualities of fresh is moderately firm at prevailing values, there being a fair outside demand and improved inquiry on local account. There will be an outlet East for considerable California butter during the next few months, provided prices are kept within moderate bounds.

Creamery, extras, ₱ lb	21 @—
Creamery, firsts	19 @20
Creamery, seconds	17 @18
Dairy, select	19 @—
Dairy, firsts	17 @18
Dairy, seconds	13 @15
Mixed Store	10 @12

Cheese.

There is a fair demand for desirable qualities of domestic product of all sizes, and values are ruling steady, with stocks only moderate. Eastern cheese is now relatively higher at primary points than here.

California, fancy flat, new	11½@12½
California, good to choice	10 @11
California, fair to good	9½@10
California, "Young Americas"	11 @13
Eastern	12 @15

Eggs.

There has been more steadiness to the egg market the past week, the lower figures on fresh stimulating the demand and onabling receivers to keep stocks cleaned up fairly well. It is believed that prices will be maintained close to current levels until after the holidays. Cold storage eggs continue to be offered freely and at easy figures.

California, select, large, white and fresh	37 @39
California, select, irregular color & size	30 @35
California, good to choice store	25 @28
Eastern firsts	23 @27
Eastern seconds	19 @21

Vegetables.

There were fairly liberal receipts of Green Peas from the Southern section and market was easier. Other fresh vegetables were not in heavy supply, and desirable qualities were in the main favored with a good market. Onions of high grade were firmly held, strictly choice being difficult to obtain under $2.50.

Beans, Lima, ₱ lb	5 @ 7
Beans, String, ₱ lb	3 @ 6
Beans, Wax, ₱ lb	3 @ 6
Cabbage, choice garden, ₱ 100 lbs	65 @ 75
Egg Plant, Los Angeles, ₱ lb	5 @ 7
Garlic, ₱ lb	4½@ 5
Onions, Yellow Danver, ₱ ctl	2 00 @ 2 50
Peas, Green, Los Angeles, ₱ lb	3 @ 6
Peppers, Green, ₱ box	40 @ 60
Rhubarb, ₱ box	50 @ 1 00
Summer Squash, Los Ang., small bx	75 @ 1 00
Tomatoes, box	50 @ 1 00

NOTE.—Large boxes are what are known to the trade as "pay boxes," which have to be returned or paid for. They are open top, with hand holes in the ends, and weigh when filled from 50@60 lbs gross. Small boxes are free boxes, about the same as the regular fruit box, weighing when full from 20 to 30 lbs. gross.

Potatoes.

For choice Burbanks there was a fair demand and market moderately firm at the quotations. Ordinary qualities continued in heavy supply and moved slowly at a low range of values. Sweets were in materially increased receipt and prices declined 10@15c. per cental.

Salinas Burbanks, ₱ cental	90 @ 1 40
River Burbanks, ₱ cental	40 @ 75
River Reds, ₱ cental	65 @ 75
Oregon Burbanks, ₱ cental	75 @ 1 00
Sweet Potatoes, ₱ cental	65 @ 75

Fresh Fruits.

The market for Apples shows the same unsatisfactory condition as previously noted. The wholesale depots were crowded with supplies, and numerous carloads were sidetracked here for lack of store room. One firm had eleven carloads of Oregon and Washington Apples held on the track at one time. Until there is a material reduction in spot offerings, the market is certain to incline against sellers. Weakness is decidedly pronounced for other than the most select qualities. Pears were in such scanty supply as not to admit of regular quotations. Grapes were offered sparingly and included few which could be termed choice; for latter sort the market was firm, some sales being made in a limitod way at stiffer figures than were warranted as quotations. Persimmons wero in very moderate receipt, but demand for this fruit was not active and prices were without apprec able improvement. Offerings of Strawberries were mainly of the Malinda variety and averaged rather poor as to quality; sales of common were made down to $2@2.50 per chest, a few No. 1 bringing $5. For some fairly good Longworths $10 per chest was realized.

Apples, fancy, ₱ 50-box	1 25 @——
Apples, good to choice, 50-lb. bx	75 @ 1 00
Apples, fair to good, ₱ box	50 @ 75
Apples, Lady, ₱ box	1 25 @ 2 25
Grapes, ₱ box or crate	35 @ 75
Grapes, large open boxes	75 @ 1 25
Persimmons, ₱ regular box	50 @ 85
Raspberries, ₱ chest	6 00 @ 8 00
Strawberries, Longworth, ₱ chest	8 00 @ 10 00
Strawberries, large, ₱ chest	3 00 @ 6 00

Dried Fruits.

A generally quiet market is reported for cured and evaporated fruits, so far as actual trading is concerned. There has been a quite liberal outward movement, representing in the main deliveries of previous purchases. There were further free shipments of Prunes, the steamer Memphis, sailing on 2nd inst., carrying 720,420 lbs. of this fruit, mainly for Germany. The same steamer took 8,800 lbs. of other dried fruit, assorted, aside from Raisins. The steamer Sonoma for Australia took 52,127 lbs. of dried fruit, exclusive of Raisins, and including 25,600 lbs. Prunes, 10,300 lbs. Apples, 10,100 lbs. Apricots, 2,100 lbs. Pears, 1,700 lbs. Peaches. The steamer Umatilla for British Columbia carried 6,300 lbs. Prunes and 2,625 lbs. of other dried fruits, not including Raisins. While there is not much immediate trading, stocks of most kinds are of small compass, are mostly in second hands and in consequence values are in the main being well sustained. About the only instances where the market inclines against sellers are on Apples, medium sizes of Prunes and common Pears. A weak market East for Apples is affecting values here for this fruit. Common Pears are not much sought after at any time. Present offerings of Prunes are mainly of the medium sizes; custom was solicited at 1¾c for 60–70's in sacks.

EVAPORATED OR BLEACHED.

Apples, 50-lb boxes, rings, pressed, good to choice	4½@ 5
Apples, extra choice to fancy, 50-lb boxes	6 @ 6½
Apricots, Moorpark	9 @11½
Apricots, Royal, good to choice, ℔ lb	7½@ 8½
Apricots, Royal, fancy	9 @10
Figs, 10-lb box, 1-lb cartons	55 @60
Peaches, unpeeled, good to choice	7¼@ 7¾
Peaches, unpeeled, fancy to extra fancy	8 @ 9
Pears, standard, ℔ lb	6½@ 7
Pears, choice to fancy	8 @10½
Plums, Black, pitted	5½@ 6½
Plums, Yellow, pitted	6½@ 7½
Prunes, Silver, good to fancy	4 @ 7½
Prunes, in bags, 4 sizes, 1½@1¾c; 40–50s, 3¾@4c; 50–60s, 2½@2¾c; 60–70s, 1¾@2c; 70–80s, 1½@1¾c; 80–90s, 1¼@1½c; 90–100s, 1@1¼c; small, ⅞@1c.	

COMMON SUN-DRIED.

Apples, sliced	3½@ 4½
Apples, quartered	3½@ 4½
Figs, White, in bulk	2 @ 2½
Figs, Black	2½@ 4

Raisins.

Supplies are showing steady reduction and are now of comparatively light volume in both first and second hands. Market is quite firm. Free purchasing would necessitate the payment of an advance on current quotations. Shipments for week include 68,600 lbs. per steamer Sonoma for Australia and 10,000 lbs. per steamer Umatilla for British Columbia.

CROP OF 1904.

(Fresno delivery except otherwise specified,)

London Layers, 2 crown, 20-lb box	90 @ 95
London Layers, 3-crown, 20-lb box	95 @1 00
Fancy Clusters, 4 crown, 20-lb box	1 35 @——
Dchesas, 20-lb box	1 85 @——
Imperials, 20-lb box	2 25 @2 35
2-Crown Standard loose Muscatel	3¼@3¾c
3-Crown Standard	3¾@4 c
4-Crown Standard	4¾@5 c
Seedless Thompsons	—@4½c
Seedless Sultanas	—@3 c
Fancy, 16-oz. Seeded	6 c
Choice, 16-oz. Seeded	5 c
Fancy, 12-oz. Seeded	5 c
Choice, 12-oz. Seeded	4 c
Bleached Sultanas, Woodland Dist., 50s	4½@4¾c
Bleached Thompsons, Woodland Dist., 50s	4½@8½c

Citrus Fruits.

Market is heavily stocked with Oranges, mostly small and under ripe. With frosty weather most of the week, the local inquiry has not been active, even for ripe Oranges. Japanese Mandarins, fully ripe, are in good supply and are interfering with the sale of California Oranges. Sales of Navels were mainly within range of $1.25@1.75 per box, and transfers in a wholesale way over $2 per box were too rare to warrant quoting. The Lemon market was quiet, but desirable qualities were as a rule steadily held. Market for Limes was slow and weak.

Oranges, Navels, ℔ box	1 25 @2 00
Oranges, Seedlings, ℔ box	75 @1 00
Oranges, Cal. Tangerines, half box	75 @1 00
Lemons, California, select, ℔ box	3 00 @3 25
Lemons, California, good to choice	2 25 @2 75
Lemons, California, fair to good	1 25 @2 25
Grape Fruit, ℔ box	1 50 @2 25
Limes, Mexican, ℔ box	3 75 @4 25

Nuts.

While there are not many Almonds offering, especially of desirable qualities of favorite varieties, there is little wholesale demand and not much inquiry in a small way. As to prices, there is a wide difference between the views of sellers and buyers. For instance, on Shelled Almonds, some jobbers are talking 30c. per lb., but they will not bid 22c. for choice unbroken stock. On a lot from Ventura, unsulphured and unbroken, plump kernels, presented this week to large retailers and candy men, 21c. was the best bid. Choice Walnuts are practically out of stock.

Chestnuts, Cal., ℔ lb	8 @10
Nonpareil Almonds	14 @17
Ne Plus Ultra Almonds	12 @14
Languedoc Almonds	9 @11
Peanuts, fair to prime	5½@ 6½
Cal. Walnuts, No. 1 soft shell	12 @13
Cal. Walnuts, No. 2 soft shell	10 @11
Cal. Walnuts, No. 1 hard shell	10 @11
Cal. Walnuts, No. 2 hard shell	8 @ 9

Wine.

There was a reported sale of this year's Sonoma wine at 15c. per gallon, delivered at nearest railroad station, four months' time for payment, 3% off for cash. Other wine from same section tendered at same figure and on same terms failed to secure buyers. Good to choice dry wines of 1904 are quoted at 14@17c. per gallon, and market firm in tone. A dispatch from New York announced an auction sale of California wines, and that there would be future auctions at regular intervals. Parties here who are identified with the wine trade, but outside of the Association, believe the Wine Association is interested in this auction business. The steamer San Juan, sailing Saturday, carried 77,326 gallons and 5 cases, mainly for New York. Receipts of wine at San Francisco last week, 384,075 gallons.

Produce Receipts.

Receipts and exports of leading cereals and other California products for the past week and for the season to date, as compared with the corresponding time the previous year, are as follows:

FOR THE WEEK.		Since July 1, 1904.	Same time last year.
Flour, ¼ sks	96,140	2,194,375	2,681,719
Wheat, ctls	57,583	1,466,899	944,685
Barley, ctls	29,734	1,846,074	3,637,826
Oats, ctls	17,982	565,364	607,048
Corn, ctls	4,788	91,331	69,125
Rye, ctls	793	29,974	30,088
Beans, sks	19,138	374,690	472,657
Potatoes, sks	31,574	570,410	590,334
Onions, sks	2,669	68,063	89,482
Hay, tons	2,964	93,222	95,454
Wool, bales	1,069	37,635	31,546
Hops, bales	725	27,734	22,418

EXPORTS BY SEA.

FOR THE WEEK.		Since July 1, 1904.	Same time last year.
Flour, ¼ sk	78,412	1,726,296	1,871,828
Wheat, ctls	9,343	439,650	387,894
Barley, ctls	171,965	1,209,383	2,914,489
Oats, ctls	10	15,623	12,131
Corn, ctls	4,218	45,224	8,332
Beans, sks	311	34,748	17,804
Hay, bales	3,755	68,041	81,091
Wool, lbs		809,532	1,614,268
Hops, lbs	8,932	194,612	396,196
Honey, cases		1,168	3,626
Potatoes, pkgs	284	43,930	41,409

New Patents.

DEWEY, STRONG & CO.'S SCIENTIFIC PRESS PATENT AGENCY, 330 Market St., S. F., has official reports of the following U. S. patents issued to Paoific coast inventors:

FOR THE WEEK ENDING NOVEMBER 22, 1904.

775,440.—SANDAL—B. R. Bonney, Pasadena, Cal.
775,722.—VEHICLE TIRES—L. P. Faison, Golconda, Nev.
775,650.—BOTTLE—W. B. Hargan, S. F.
775,821.—BANK CHECK — M. A. Howe, Tacoma, Wash.
775,625.—TAPPET—W. E. Ingram, Stockton Cal.
775,626.—ILLUMINATING TILE—I'. H. Jackson, S. F.
775,827.—STEAM COOKER—A. J. Ketelsen, Seattle, Wash.
775,906.—CULTIVATOR—A. H. Kopperud, Byron, Cal.
775,370.—RAISING SUNKEN VESSELS — M. Lacey, Seattle, Wash.
775,831.—VEHICLE WHEEL—J. Lefler, San Bernardino, Cal.
775,833.—MANIFOLD BOOK—A. Levison, S. F.
775,756.—GATE—M. K. Lewis, Lompoc, Cal.
775,376.—BUSHING—J. Metzger, Tacoma, Wash.
775,476 —DRIVE GEAR—A. Mills, Aukum, Cal
775,578.—SLUICE BOX — J. I. Porter, Mountain View, Cal.
775,608.—ELEVATOR STOP—Robinson & Casey, Mokelumne, Cal.
775,502.—EXTRACTING OLEO-RESIN—E. J. Sheehan Pasadena, Cal.
775,612.—HAY PRESS—E. A. Smith, Warm Spring Cal.
775,583.—CARRIAGE TOP BOWS—C. H. Sooy, Nord San Juan, Cal.
775,410.—SANITARY CABINET—S. L. Stuart, Ventura, Cal.
775,711.—DRUMS—E. T. Turney, San Rafael, Cal.
775,712.—DRUMS—E. T. Turney, San Rafael, Ca.
775,616.—ERASER—F. W. Warren, S. F.
775,506.—ARTIFICIAL LIMB — L. A. Weisser, National City, Cal.
775,483.—LEVEL—G. H. Whitehouse, Seattle, Wash.
775,882.—GARMENT SUPPORTER—M. P. Zindorf, Seattle, Wash.



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PATENTS

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Here are the commonest symptoms: Weakness or loss of weight; puffy ankles, hands or eye-lids; Kidney trouble after the third month; urine may show sediment; failing vision; drowsiness. Any one of these should make you suspicious.

The deaths due to kidney trouble (technically known to physicians as Brights Disease) have attained frightful proportions, now amounting to over 140,000 deaths annually. The last census showns that the deaths have nearly doubled since 1890.

The Denver Medical Times quotes Dr. Loomis, the famous Bellevue Hospital authority, as saying that he believes from hundreds of autopsies that nine-tenths of men and women over forty have Brights Disease in some form. It is our national scourge. People must realize that kidney trouble (to be more accurate—Brights disease) is a serious thing.

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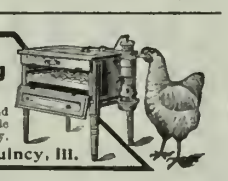
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THE STOCK YARD.

The Feeding Value of Potatoes.

In view of the fact that some classes of potatoes are now rather low in price and in excessive supply, the following review of their value as feed for different domestic animals may be helpful to some readers. The following comprehensive statement is by Prof. W. A. Henry of the University of Wisconsin, whose excellent work on "Feeds and Feeding" has been largely sold to California stock growers through the PACIFIC RURAL PRESS:

While potatoes are extensively used in many countries for stock food, their value for this purpose is little known and less appreciated by our people, because most years prices have ruled so high that there was more profit in selling than feeding. Bitter as is the disappointment to growers concerning results when potatoes are plentiful and low-priced, the situation offers opportunity for a practical lesson in the feeding value of potatoes, which, if rightfully practiced, will turn impending loss into a fair profit, after all.

WHAT EXPERIMENTS SHOW.—Girard, the French investigator, in experiments with steers and sheep, secured the following results:

Steers fed 110 pounds of beets per day gained 2.09 pounds per day.

Steers fed 55 pounds of potatoes per day gained 2.86 pounds per day.

Steers fed 66 pounds of potatoes per day gained 3.52 pounds per day.

Sheep fed 8.8 pounds of beets per day gained 0.124 pound per day.

Sheep fed 4.4 pounds of potatoes per day gained 0.239 pound per day.

Sheep fed 6.6 pounds of potatoes per day gained 0.295 pound per day.

In the above experiments potatoes were cooked before feeding, a practice not generally followed, except with swine. In all cases hay and straw were fed additional. The figures show that potatoes were worth considerably more than twice their weight in field beets.

Girard concludes: "The potato, when free from rot and mature, must be regarded as a food of excellent merit for producing meat."

Fjord, the great investigator of feeding stuffs in Denmark, found as the result of many experiments that four pounds of potatoes furnished as much nutriment to animals as one pound of rye or barley.

The writer conducted experiments a few years ago to ascertain the value of potatoes for hogs. The potatoes were carefully weighed and then cooked in iron kettles, and a weighed amount of cornmeal added, so as to make thick pudding or mush. These experiments show that 445 pounds of potatoes were equal to 100 pounds of cornmeal in pig feeding. In other experiments I have shown that cornmeal had a somewhat higher feeding value than barley. This true, my results are practically considered with Fjord's, and we may assume with safety that four pounds of potatoes are worth one pound of barley or rye and almost the same weight of cornmeal for hog feeding.

FOR DIFFERENT ANIMALS.—Cooked potatoes, to which meal has been added, are excellent food for fowls.

Besides their nutritive value, potatoes are helpful in furnishing a variety of food and keeping animals in a healthy condition—a point always considered by the prudent stockman.

From what has been said above, we see that, when corn is worth 40 cents a bushel, potatoes are worth about 10 cents per bushel for feeding purposes.

Although Girard favored cooking for steers and sheep, general experience goes to show that they can be most economically used by feeding raw to all farm animals, excepting hogs and fowls.

For horses, sheep and dairy cows potatoes should be sliced in a root cutter or chopped in a box with a sharp spade.

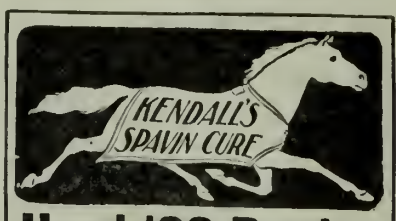
Milch cows may be fed with advantage as much as twenty-five pounds of sliced potatoes per day; if a greater weight than this is fed, the potatoes will have an unfavorable influence on the quality of the butter produced.

For sheep, three or four pounds of potatoes daily to each member of the flock will prove highly advantageous; fattening sheep may be fed as much as five or six pounds per day.

Work horses may be fed ten or twelve pounds per day of sliced potatoes; more than this should not be fed, because this food is too "softening." Idle horses and breeding stock can be given a somewhat larger amount with advantage.

COOKED POTATOES FOR HOGS.—Hogs do not thrive on raw potatoes. The writer has found that in cooking potatoes for hogs only a little water should be placed in the kettle, so as to leave the potatoes almost free from water when the cooking is finished; then, by withdrawing the fire, the potatoes can be mashed in the kettle and meal mixed with them, making a thick mush or pudding. A thick pudding was found to be more acceptable to the hogs than a thin mush or slop.

There is danger in feeding potatoes, as with other roots, in the fact that they may induce scouring. To avoid this, the careful feeder will begin giving potatoes in only small amounts to his stock, gradually increasing the quantity as the animal becomes accustomed to this food. As soon as there are any signs of loosening of the bowels, he will diminish slightly the quantity of potatoes fed. If scouring actually occurs, it will set the animals back in gaining flesh or giving milk for several days, or even some weeks, if



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Beware of so-called Elixirs. Tuttle's only is genuine. Avoid all blisters: they are only temporary relief.

the attack is a serious one. Because potatoes are cheap, the farmer should not be careless in feeding them to his stock. By using them judiciously, and accustoming his animals to this kind of food, potatoes will prove very satisfactory.

FEED POTATOES AND SAVE THE GRAIN.—Experience shows that unusually large crops over large areas may work harm to the farmer, because the very low prices which often follow cause him to become careless and wasteful of what he has raised. This threatening fault should be carefully avoided at such times. It should be remembered that potatoes are perishable and will soon waste and disappear, while any grain on hand may be saved in the bins for some years to come without any material loss. The farmer with a large stock of perhaps otherwise profitless potatoes on hand should feed these to his stock as rapidly as they can be judiciously handled, in order to conserve any grain he may have. While potatoes may not be worth more than 10 cents a bushel for feeding, they may effect a saving of hundreds of bushels of grain which at some later time may bring a higher price than is then offered. In such instances, by feeding a part of the potatoes on hand, the remainder may bring better prices, or, at least, this action will tend in that direction.

Our figures teach that an acre of good potatoes may be worth as much for feeding as an acre of corn yielding from fifty to seventy-five bushels per acre; viewed in this light, the potato crop is, after all, not necessarily a losing one in times of depressed prices.

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THE PUBLIC LANDS.

Release From Withdrawal for Forest Reservations.

Mr. W. A. Richards, Commissioner of the General Land Office at Washington, D. C., has written the following statement about the recent release from withdrawal of public lands within areas aggregating more than 5,000,000 acres in California, Colorado, Idaho, Montana, Nevada, Oregon and Washington, constituting portions of areas covered by temporary withdrawals made for proposed forest reserves and proposed additions to existing forest reserves.

In California 1,877,000 acres are to be released from the Sierra Forest Reserve, etc., and it is distributed through all the districts from Visalia to Redding and Susanville. There are also 404,000 acres to be released from the Modoc Reserve in the Susanville district. In the former districts the lands will be subject to entry, filing and selection on Jan. 31 prox., and in the latter district on March 31 prox.

The orders temporarily withdrawing areas for the proposed forest reserves and proposed additions were issued in order to prevent the initiation of further claims upon the land, pending the thorough examination of the areas under temporary withdrawal, with a view to determining as to what portions thereof should be permanently reserved for forestry purposes.

Following the temporary withdrawals so made by the Secretary of the Interior, thorough field examination of all the withdrawn areas was made by representatives of the Bureau of Forestry of the Department of Agriculture. By means of such examinations the portions of the withdrawn areas not suited to forest reserve purposes were ascertained and listed. The undesirable areas are made up in part of public lands found to be of more value for agriculture than for forestry purposes, and in part of lands rendered undesirable for inclusion within forest reserves by reason of the fact that they are not owned by the United States, but have passed to the several States or to individuals under the public land laws.

The lands thus found to be undesirable for inclusion within the reserves constitute the areas covered by the recent orders of restoration, and, as above pointed out, are made up only in part of public lands. The lands not owned by the United States were not affected by the temporary withdrawals and are not affected by the restorations.

In each case the order of restoration issued by the Secretary of the Interior released from withdrawal the public lands within the described area, and restored them immediately to settlement, but provided that the lands so released from withdrawal and restored to settlement shall not become subject to entry, filing and selection until after ninety days' notice by publication; thus insuring to actual settlers a preference period of ninety days.

Excepting in the respect of the preference period insured to actual settlers, the public lands involved are simply restored to their former status as portions of the public domain, subject to disposition under the public land laws in the usual manner.

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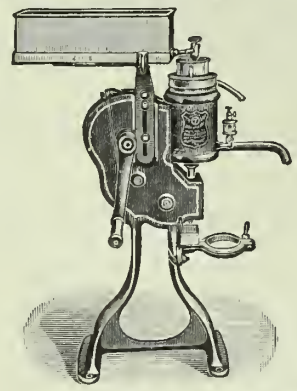
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Patrons of Husbandry.

Farmers' Institutes in Southern California.

To the Editor:—There will be five Farmers' Institutes in southern California in the near future, the most important of which will be the Farmers' Club Institute at Santa Barbara. The places and dates are as follows: Rialto, Dec. 30–31; Santa Paula, Jan. 2–3. This institute will possess a special interest, as on Tuesday, Jan. 3, the forenoon will be devoted to a field meeting at the Limoncira lemon orchards, where lunch will be served to the visitors. The annual Institute will convene at Santa Barbara, Tuesday evening at 8 o'clock, and will continue through Friday. On Saturday, the 7th, there will be an Institute at Ventura, and the series will conclude with a two days' Institute at Nordhoff, Monday and Tuesday, the 9th and 10th.

The following persons have promised attendance and will discuss the subjects mentioned: "Ayreshire Cattle," President Leroy Anderson, State Polytechnic School. (There will be an exhibit Wednesday P. M. of the splendid Ayreshire cattle of the Santa Barbara region which will be reviewed by Pres. Anderson and others). "The Walnut Industry," J. B. Neff; "Value of Goat's Milk," Dr. J. H. Hester; "The Water Problem," Prof. W. C. Mendenhall, of the Government Geological Survey; "Olive Culture," R. C. Allen; "Lemon Industry," C. C. Teague; "Strawberry Culture," Dwight Griswold; "The Dairy as an Adjunct of the Orchard," Mrs. Minnie E. Sherman; "Our Agricultural College," Pres. Benjamin Ide Wheeler; "Needed Road Legislation," Dr. E. W. Reid; "Needed Reforms," Frank Kellogg; "Farmers' Clubs," Prof. C. B. Sumner; "The Southern California Fruit Exchange," Manager B. A. Woodward; "The Exchange a Success for the Small Growers," Robert Willetts; "Scale Pests," Horticultural Commissioners Jeffries, Curtis and Pease; "Hard Pan," J. H. Reed; "Theory of Plant Breeding," Dr. David Starr Jordan; "Cover Crops," James Mills; "Fungoid and Bacterial Diseases," Roy K. Bishop.

The exceptional excellence of this programme, the field meeting at the Limoneira orchards and the opportunity to visit the beautiful suburbs of Santa Barbara will surely bring a large attendance to this Farmers' Club Institute. Efforts are being made to secure a reduction in railroad rates.

A. J. Cook,
University Conductor of Institutes for Southern California.
Claremont, Los Angeles county.

Tulare Grange.

The regular meeting of Tulare Grange was held Nov. 26th at Goldman's hall. The meeting opened with Past Master E. S. Shoemaker in the chair. Miss Swanson was appointed Leeturer pro tem.

A class of three was received in the third and fourth degrees.

E. S Shoemaker, as chairman, offered a resolution which appealed to every member of Congress and the Legislature to join the Grange in the protest against the repeal of a law that was enacted for the protection of the consumers of pure butter, as well as for the protection of one of the most important agricultural industries of this country—that of dairying.

The question of the day was: "Should the waters of the streams be held as appurtenances to the land irrigated thereby, and, in the most economical way, be used therefor?"

A valuable paper on the above was read by Brother Lawson and remarks were made by Brothers Fowler, Beaver and others.

The question drawn from the question box was as follows: "What can the dairymen do to market their products to better advantage?" This question was ably handled by Brothers Fowler, Davis and Lawson, also Sister Morris. The result of the argument may be summed up as follows: That dairymen should co-operate more and join the Grange.

The lecture programme for December 3rd is as follows: "What should the different members of the family contribute to the ideal home?" Assigned to Sisters Zartman, Hawkins and Nelson.

The meeting was largely attended and was very interesting to all those present.

Irrigation Engineers.

The United States Civil Service Commission announces that the examination of November 22–23, and which was described in detail in the Pacific Rural Press of November 5th ult., has been postponed until January 18–19, 1905, and will be held at San Francisco, Marysville, Fresno and Los Angeles, to secure eligibles from which to make certification to fill vacancies as they may occur in the position of irrigation engineers in connection with the irrigation and drainage investigations in the office of experiment stations, Department of Agriculture. The initial salary will be from $1500 to $2000 per annum, according to qualifications. This examination is open to all citizens of the United States 20 years or over who comply with the requirements.

Applicants should at once apply to the United States Civil Service Commission, Washington, D. C., for application form 1312. No application will be accepted unless properly executed and filed with the Commission at Washington. As examination papers are shipped direct from the Commission to the places of examination it is necessary that applications be received in ample time to arrange for the examination desired at the place indicated by the applicant. The Commission will, therefore, arrange to examine any applicant whose application is received in time to permit the shipment of the necessary papers.

Two Crops of Plums in a Year.

One of Mr. Burbank's new fruits has taken advantage of the peculiar conditions which prevailed during the present autumn and has doubled its fruiting. A Santa Rosa dispatch is as follows: Luther Burbank, the horticulturist, was pleasantly surprised on Thanksgiving day by the receipt of some fresh fruit from one of the plums which he originated, and which this season developed a decidedly freaky tendency. The donor of the fruit was Judge F. S. Leib, one of his warmest friends and most ardent admirers, and it came from trees which Leib is testing on his Santa Clara property. The plum is called the "July Fourth" plum, because it is one of the earliest bearers known, and is always ready for the table by the time the Nation's birthday arrives. This year, under existing conditions, the tree bore its usual crop early, and then bloomed again and bore a second crop of splendid fruit. This was news to Burbank, Leib having planned to give him the surprise of eating some of the early fruit late in the season.

This is the first time the plum has borne two crops in one season, and it was wholly unexpected by its originator. The plum is one which has not been sold as yet, the Santa Clara jurist making the final test before it is put on the market. There will probably be a great demand for it, as it is one of the best as well as the earliest plums on the market.

The twentieth edition, No. 3, of the catalogue and price list of the California Nursery Co., Niles, Cal., contains about 100 pages descriptive of their stock in its various varieties; everything plainly scheduled, with prices for single tree, vine, plant or flower, per 10, per 100, per 1000, with useful hints as to planting or transplanting.

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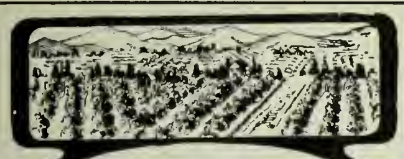
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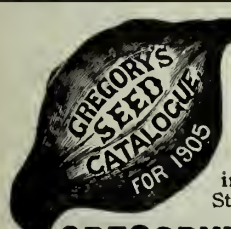
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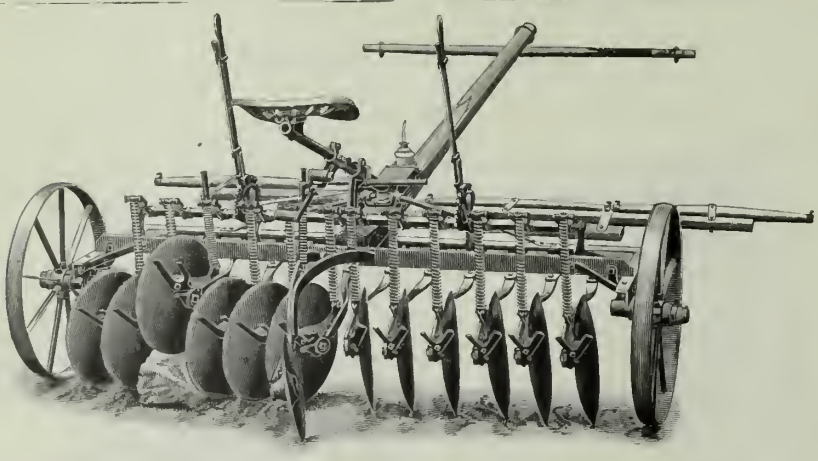
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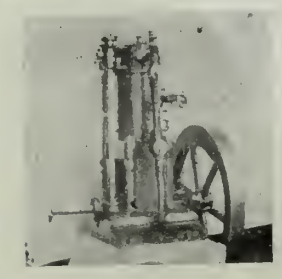
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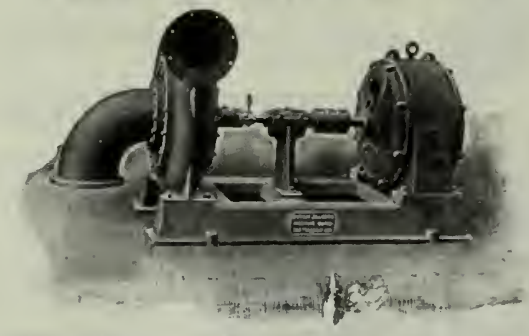
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THE PACIFIC RURAL PRESS

AND CALIFORNIA FRUIT BULLETIN.

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A Bunch of Prize-Winning Youngsters.

Visitors to the last three California State Fairs who were interested in the live stock exhibit all know the Quinto herd of Shorthorns belonging to the estate of Wm. Howard, and which now has to its credit seventy-seven premium awards during these years.

The most remarkable feature of the cattle of the Quinto herd was their singular uniformity, showing in King Spicy, the bull at the head of the herd, the wonderful power of reproduction. The sons and daughters of King Spicy have taken more premiums than the progeny of all the other California sires combined, and at the State Fair, 1903, three sons of King Spicy took first, second and third premiums in the Shorthorn bull calf class. As a proof that he is still breeding on, the picture on this page shows the first, second and fourth premium calves sired by that same old hero of the show ring. The youngsters do not show the finish which can be artfully secured for exhibition purposes. They are simply in good growing condition and have not been filled out for show.

A few days ago R. M. Dunlap, one of the best known herdsmen in California, said: "I would like to own a really first-class herd bull. I traveled 10,000 miles this year and looked at a great many, but there were very few that could be called first-class, and some day the Californians will realize what really good ones we have here if they breed the way they look." That's it—if they breed the way they look, and if they don't what reason has one to expect anything better of their grandsons and granddaughters.

King Spicy is a great sire. His sons are proving to be great sires also, as well as premium takers. Why shouldn't they if they are bred right, and the Spicy family from which King Spicy comes, has produced a great many show cattle. The Quinto herd, or Howard cattle, have been bred in this State for nearly fifty years, and it is important to know that Californians have not got to travel 10,000 miles to see some really first-class herd bulls or to get their calves. They are right here in California, and they have made their name and record right amongst us.

Logging in the Foothills.

The agriculture of the foothills of the Sierra Nevada is largely shaped to meet the needs of the mining population and, except in the fruit shipping districts, the foothill farmer is busy either in growing food and forage for the mining and lumber camps or in working little mines of their own, when there is water enough for it and too much for soil working. Thus there comes about a close connection between local farming and mining, and the question of correct classification of individuals as to whether they are miners doing farming or farmers doing mining, or both doing the other thing, often calls for the closest investigation in the chambers of the saloon or grocery. But aside from this question of preponderance of pursuit in individual cases there remains the interdependence of all classes of producers in the mineral districts, nor does it end with materials of animal nutrition. The mines themselves are the greatest consumers of field products, and their appetite for timber is one of the chief proofs of it. Fortunately for all concerned, the Creator is the chief grower of the product and Uncle Sam the holder of the present deeds to the property upon which the crop now being harvested was planted hundreds of years ago. Both the planter and the present owner of the timber crop are of most generous heart and both farmer, in the form of harvester, and the miner, as the consumer thereof, ought to be filled with joy at the presence of the product which keeps them both busy. Very much of the gold which comes from below the earth goes to pay for handling the timber which is growing above. The picture on this page, which represents the log pile prepared for a single season's use in a single mine in Calaveras county, will enforce the point we have in mind. We also have the statement that, while this picture showing 6000 logs is a portion of the supply for one mine, there are adjacent properties which use in the aggregate twice as many in the season.



Partial View of 6000 Logs for Use in a Mine in Calaveras County.



Shorthorn Bull Calves of Quinto Herd, Bred and Owned by Estate of W. H. Howard, San Francisco.

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The Week.

This week is quite the reverse of last, for heavy skies are lending their obscuring power to the still shortening sunlight and the days are at their worst. Moisture is abundant everywhere, except at the extreme south, and temperatures are of the growing grade. The promise is still for a year of maximum production, for the showers are light and scattered plenty to continue mellowness in the soil and still not interfere with full day's of winter work with plow, harrow and drill. The growth of grass in pasture districts continues large, and from foothills to plains the landscapes are stretches of verdure. There is not stock enough in sight to greatly check the pace of the growing feed, and California will be great this year, both for man and beast.

Wheat is in the main better than a week ago, both in spot and options, but there is little trading done. There has been no clearance of cargoes and no charters drawn. One ship will load on owner's account. Spot wheat is, however, quotable 50 cents per ton higher than a week ago. Barley is firmer and there are no heavy offerings. Oats are strong, and higher for white oats. Corn is in better supply and lower—the stock is mostly Eastern, though California corn is beginning to arrive. Beans are unchanged, choice dry are very firm and others as before. Bran and middlings are also stiff, active, and held in few hands. Hay is weak and lower, with light demand and liberal offerings. Export movement is desirable and though there is talk of purchases by Russia, Japan and by our own Government, the orders have not cropped out yet. Beef and mutton are firm and in good demand, but as packers have quit hogs are looking down. Fresh butter is 2c to 3c higher. Cheese is quiet; buyers are slow and there is apprehension of accumulation. Choice fresh eggs are higher, but not very strong at the advance. All kinds of chickens are slow, but broilers have a better look at the close. There are still heavy receipts of Eastern fowls. Ducks are lower and geese steady. Turkeys are lower for dressed and higher for alive stock; the next week is doubtful, although the prophesy is for a better trade than at Thanksgiving. Choice potatoes are in good demand at better prices and onions are higher. Apple receipts are less and the tone is better, but there is no change in prices. Oranges are plentiful, but many are still too green and sour and choice are scarce. Dried fruit is very quiet and not much stock in sight. Prices are steady and shipments to Pacific countries continue. Nuts and honey are the same as last week. Hops are dull and quotations largely nominal. Wool is still sought for by buyers, who get whatever small lots appear and do not like to talk about prices which may be presumed to be high.

The Fruit Growers' Convention at San Jose finished its course after our last issue went to press. It was a lively meeting throughout—perhaps a little more lively than its many predecessors. The transportation and marketing problems occupied the leading place and were discussed with much vigor and some heat. The clearest concrete result attained was the decision to apply the referendum method to ascertain whether the producers would enter upon a new concentration effort to market the prune crop. A promising scheme was outlined, as we shall describe at another time, and the question is: How many will go into it? The whole success of the matter depends upon the answer to that question, and the State Horticultural Commissioner will endeavor to find that out. In transportation the convention resolutely refused to follow the lead of the majority of its committee into more loud and radical measures, but adopted a minority report, which called for better service from the railways and from Congress a law making all sorts of rebates criminal. There were a number of good papers on injurious insects and plant diseases, some of which appear in this issue and others will follow. The same is true of other matters presented which seem to us of general interest. Perhaps the most notable things about the convention were the tone and spirit of it, which were confident and hopeful: an impulse toward construction rather than destruction. Narrowness in view, pessimism in production and prejudice in education were knocked from their perches by votes running from five or six to one against these propositions, and "fell with dull, sickening thuds." The apostles of such creeds ought soon to learn that progress does not lie in such directions and join with the rest in more hopeful efforts.

It is apparent now from the active work of various agricultural organizations and the free comment of the public press that the enlargement of the work of the agricultural department of the State University and a more adequate equipment for its work in both instruction and experimentation is to be one of the leading topics at the coming session of the Legislature. The general management of the University and the various faculties thereof seem not only to concede to the agricultural department the right of way in claims to be made upon the coming Legislature, but are manifesting a very active and cordial appreciation of the fact that this division of the institution merits pushing ahead and that the development of the State demands that it shall be done. Nothing is more clear than that the claims made by ill-informed people on the outside that other departments of the University desire to repress the work in agriculture are baseless, and it is clear also that some folks who have been disposed to cherish such an impression have abandoned it. There is, in fact, now prevalent better knowledge and appreciation of the agricultural college than ever before. The chief point at issue in the free discussion and resolution which are issuing from journals and organizations is as to whether extension of equipment and facilities is most imperatively needed at the University site or at an outlying branch of it. Naturally there is much emphasis placed upon the importance of building up liberally the outlying branch which shall have superior advantages for instruction and experiment in practice. It is, perhaps, hardly to be expected that those who do not fully know the situation inside should properly appreciate its needs. They do not know that during the current year the enrollment in agricultural classes has aggregated over 450. They do not know that the present temporary wooden building is crowded like a country hotel in fair time; that pupils and instructors are fairly sticking out of it all the way from cellar to attic; that it has apparatus and outfit for instruction less adequate than many rural high schools possess—and all that. Every one who goes to see these things can realize the situation in a moment. Now it will not do to say that this work at the University, with its 450 odd people demanding it, must wait, nor that the thousands who are calling for investigation and experiment, which must be done at the institution itself, must wait. That claim is irrational and those who are tempted to express themselves freely about having it wait, should go and take a look at it before talking and writing so much. Those who are giving their lives to teaching and investigating California agriculture should be presumed to know something about the situation. Their declaration is that agriculture at the University site must be properly provided for, and that a well-selected farm, ample in size and well-equipped for practical instruction and experiment, must also be secured at once if agricultural teaching is to be broadly and thoroughly done. Both these things are needed—quickly and absolutely needed—and both can be secured without immediate expenditure of such large sums of money as are frequently mentioned in discussion.

The State Agricultural Society is getting itself into more promising shape. The sale of the old park for $82,500 has been confirmed by Superior Judge Shields. Claims against the Society, aggregating many thousands of dollars, will be paid, which will leave a balance. However, by the sale of the park the society comes into possession of the $45,000 appropriated by the Legislature.

QUERIES AND REPLIES.

Walnuts—Sweet Potatoes.

To the Editor:—For this locality do you consider it better to bud the English walnut on black walnut stock than to grow them on their own roots? Are there better varieties of walnuts for this section than the English? Will you please give instructions for making a hot bed for sprouting sweet potatoes. I wish to set out ten acres.—Newcomer, Modesto.

We prefer the California black walnut root as hardier than that of the English walnut seedling. There are doubtless soils of sufficient depth and of just the right freedom from standing water and from drying out in all the California valleys and in such places the walnut on its own roots will do well, but whenever excesses, either of water or drouth, occur the native black walnut root knows how to endure them.

All the walnuts worth growing commercially in California are English walnuts or, as they are more properly called, Persian walnuts. They all belong to one botanical species—Juglans regia. If, however, you mean to make a distinction between the Santa Barbara softshell and its selected offspring (which are the varieties grown almost exclusively in southern California) and the varieties developed by the French, it is a fact that the French varieties are better in central and northern California and are now mainly used in planting—the Franquette Mayette and Chaberte being generally selected in the order named.

You do not need brisk bottom heat in a bed for sprouting sweet potatoes. There are various ways of making the beds. Any of the ordinary hot beds of boards and glass or cloth covering can be used: if glass is used be careful to get enough air and not too much heat. But in field growth of sweet potatoes sprouts are secured without building at all. A trench is dug in a well drained place, about a foot or so of fresh horse manure is tramped into the trench and a few inches of soil over the manure. Place the potatoes and sift sand between and cover with 3 inches of soil and then a couple of inches of loose straw. Keep the whole mass moist but not too wet. The plants are ready in about two months and the same potatoes will send up other sprouts later.

Beans and Potatoes.

To the Editor:—I have been unable to find the following information on Bayou beans and Burbank potatoes: On what kind of land do you best grow under irrigation? What is the date of planting in California? About what dates do they mature? I want a potato to mature from July 1st to August 15th. Will hot weather prevent the beans from blooming and how should they be irrigated? By what process are the beans to be gathered and cleaned? —Grower, San Antonio, Texas.

The land on which beans and potatoes do best under irrigation is a rather light, sandy loam, easily cultivated after irrigation and not disposed to bake by contact with the water. Potato planting time in California covers nearly the whole year, as in favorable situations they are planted in September for new potatoes at Christmas, and planted each month after that in some locality. In the lower, colder lands, where the crop is made without irrigation, the main planting is done in April and May. As the planting is continuous throughout the year, so the maturing is continuous. The length of time required from the setting to the digging differs in dif-

ferent parts of the State according to the amount of heat available. It is not possible from California experience to ascertain what you want to know. You must seek it in some State where the seasons are more clearly marked than here. Beans are planted nearly all through the year also, although, of course, the planting in the field for green beans can only be undertaken in strictly thermal situations where no frosts occur. The main planting of beans is in the spring, early or later, according to the liability to spring frosts in different sections. The hot weather does prevent the bean bloom from setting. This is only experienced in the hottest parts of the interior valley, and in such cases it is common for the plant to proceed with its growth and have the pods to set a little later after the hottest weather is over, producing a very satisfactory fall crop in such situations. Both beans and potatoes are irrigated by running water through the rows, following the water as soon as the ground admits of it, with the cultivator, but only a small part of the crop, either of beans or potatoes, is irrigated. Both are mostly made by rainfall which is conserved in the soil by constant cultivation. Beans are usually cut under with a sled running between the rows with knives projecting. The beans are gathered when sufficiently dry, thrashed and cleaned with a specially constructed bean thrasher manufactured in this State. Many points which you ask for are more fully covered in our book on "California Vegetables."

Drain Tiles and Green Manure.

To the Editor:—I have been reading your book "California Vegetables." I would like to know what size tiles I would have to use for drains? Are they porous enough for the water to run into them and off if they are buried in this clay subsoil? I have a small piece of sloping ground I want to set grape vines on, but one part of it remains too wet in the spring. I read that scarlet clover is good plowed under green for manure. Could you tell me what value our bur clover would be?—C. A. L., Green Valley, El Dorado county.

Tiles used in draining for short runs of water are chiefly 2 and 3 inches in diameter. Where large systems of drainage are laid out these small sizes are made to empty into larger ones, but in such a piece of ground as you mention probably nothing larger than 2-inch tiles are required. They are hard burned and not porous. They must be laid on the true grade that there shall be no sags and butted as closely as possible. The water finds its way into the tile at the places where they join, and it is not possible to set them so closely that the water will not enter. In clay subsoil it is a good idea to fill in up to the top of the clay with gravel, as this promotes the access of water to the tile. Unquestionably tiling would remove the difficulty in the piece of land which you speak of.

Scarlet or Crimson clover is not of much account in California in green manuring because it does not grow in the winter, being quite subject to frost injury. The common bur clover is one of the best plants for the purpose in view.

Soils for Peaches.

To the Editor:—Will you please state in your valuable paper the best root to bud peaches on for river bottom planting; also, the best late variety for canning? On what depth of soil (to the water) in river bottom will peaches do well and be profitable?—A Constant Reader, Modesto.

The peach root is best. If the land is too wet for the peach root you had better use it for some other purpose. Peaches have been worked to some extent on myrobolan roots, but are not approved on that foundation. There ought to be not less than 4 feet of soil free from standing water, and more is much better. The nearness of water is more or less objectionable according to the character of the soil—it can be nearer in an open, sandy loam than in a heavy loam. The popular decision that excess of water moving through the soil is less harmful than water held fast in it is rational and correct. But while these things are true one should proceed carefully in planting peaches in lands lying low and believed to be wet.

You do not say whether you want a freestone or a cling peach. If the former, the Salway is about as late a peach as is desirable to be grown on a considerable scale, and for a late cling you have Phillips cling, which is in high feather with the canners.

An Unprofitable Apricot.

To the Editor:—I shall esteem it a favor if you will give me any information you can on the Pennant Hill apricot tree, if cultivated in your State. I have five acres of these trees—and other settlers have also—planted in 1894, but I can not get them to bear. They have only borne one crop (1900) since planting. They are fine, healthy trees. The soil is a sandy loam, with a certain amount of white alkali, but not enough to affect their growth. Last year they were fertilized with three pounds (each tree) Thomas phosphate, but with no result. The climatic conditions are good, and the frosts have not been severe the last two years. The trees develop good fruit spurs, but the buds either do not come out at all and drop off or the blossom does not set. This season the buds did not come out at all, at least the majority of them, and very few of the blossoms that did come out set, though Moorparks and Royals bore well. Can you suggest any remedy for this state of things?—Grower, South Australia.

We do not know of Pennant Hill apricot in this State; consequently can not give you any information about it. Our experience, however, clearly is that many varieties of apricots are shy in bearing, and therefore not worth cultivating; sometimes a new variety will bear well on young trees and become shy afterwards. Possibly not less than a dozen apricots, at one time thought to be promising in California, have gone out of favor by that route. It is not worth while to experiment with soil treatment, because the thrift of the trees shows that the soil is suited to it. The proper course is to graft over the trees with the varieties which are good bearers with you, and you will be exceedingly fortunate if you can include the Moorpark among such varieties. The Royal is a good bearer almost everywhere.

Bermuda Grass for Salt Marsh.

To the Editor:—Can you tell me if Bermuda grass will succeed here where land has been overflowed with salt water and since been levied, and none covers it now? I am unable to obtain this information from local residents. None seem to have even heard of the grass.—Reader, Alviso.

Whether Bermuda grass will grow on the land which you describe depends on how far the salt has been extracted by fresh water which has fallen and drained from the land since the levees were constructed. If the land will carry barley it is probably free enough to grow grass. Bermuda grass will stand considerable of the interior alkali, but is not so hardy against the common salt of the salt marshes. It is a question, though, whether you should not use some other grass, like Australian rye grass, which is a good winter grower and grows in summer as well, providing moisture is present, while Bermuda grass will not make winter growth, as it is very sensitive to frost, which must be quite sharp and frequent on these low lands. Again, if Bermuda grass concludes to take hold of the land you will never succeed in getting it out again, while the Australian rye grass can readily be plowed under and will disappear.

Grasses for Coast Lands.

To the Editor:—I am desirous of setting out some grass suitable for green feed. Can you recommend any special grass suitable for mountain land? My place is located in Santa Cruz mountains (elevation 2500 to 3000 feet), about 8 miles from Saratoga.—Hill Farmer, San Francisco.

The best suggestion that we can make is that you go to the seed stores and get small quantities of these grasses, viz., Australian rye grass, Tall Oat grass, Bromus inermis and Orchard grass. These four grasses do best in California of all the grasses which have been introduced in satisfactory winter growth, in maintaining verdure for a considerable time during the dry season and in continuing life in the root for an early start in the fall. What these plants will do in your place, however, can only be told by such an experiment, and we recommend these because they have been so widely tried and are, therefore, most likely to prove satisfactory.

Alfalfa on Shallow Soils.

To the Editor:—Can I grow alfalfa on ground that has very little or no alkali? The hardpan of clay is only 2½ feet from the top. The soil is a dark loam, inclined to be gravelly, and bakes very easily. I have all the water I need. If I can't grow alfalfa, what can I grow to get as much hay?—Farmer, Santa Rita.

Although the depth of soil and the character of the soil which you deseribe are not what could be considered best for alfalfa, the probability is that you could get a better result, if you have plenty of water for irrigation, from alfalfa than from any other plant, because by the timely and careful use of water you can keep the plant growing, and you can also drown out gophers, which are almost sure to appear in considerable numbers. At the same time we would suggest that you put in a small piece of Eastern red clover, because in some situations on rather heavy and shallow soil, with irrigation, this plant is better than alfalfa, and it will make a large amount of good clover hay. These two plants are the best which we can suggest for you to try.

WEATHER AND CROPS.

Report of the U. S. Weather Service for Week Ending December 12, 1904.

Alexander McAdie, Forecast Official and Section Director.

Sacramento Valley.

Cool weather with frosts prevailed during the first of the week, and was followed by higher temperature and rain at the close. The frosts caused some damage to olives on the trees and tender garden truck, but did not injure oranges nor grain. Conditions were somewhat unfavorable for the growth of grain and grass, but both are looking well. Plowing and seeding continue. Green feed is plentiful and stock are doing well. Orange picking and shipping are in progress and the crop is reported very good. Olives are yielding an excellent crop in some places. Orchard pruning has commenced.

Coast and Bay Sections.

The weather was cool and frosty at the beginning of the week, but warmer toward the close. Rain fell in the central and northern sections Friday and Saturday; in Santa Clara and Sonoma counties the precipitation was about 1 inch. Heavy fogs were frequent in the coast districts. Grain and feed continue in good condition except in portions of the southern districts. Plowing and seeding are progressing. The correspondent at Cloverdale reports: "Frosts have not been heavy enough to damage oranges. Japanese oranges are ripe. Some seedlings are colored, but are not sweet. Other varieties are coloring rapidly. Olives are ready to pick." Pruning in vineyards and orchards continues.

San Joaquin Valley.

Generally cloudy and cool weather prevailed during the week, with light showers in the northern portion of the valley on Thursday and Friday. Plowing and seeding continue in the northern portion of the valley and good progress has been made, but the ground is too dry for cultivation in the central and southern portions. Early sown grain is making good progress, but rain is badly needed in all sections. The greater portion of the orange crop has been marketed: the fruit is of good size and excellent quality. Large shipments of potatoes and hay to southern California points continue from Stockton. Pruning vines has been commenced in some localities. Frosts have been frequent, but no damage has resulted. Green feed is plentiful, and stock are in good condition and healthy.

Southern California.

Warm, clear weather prevailed most of the week, with drying winds in some sections. Oranges were benefited by the warm weather and are now coloring more rapidly in most places. Picking for the holiday trade is progressing and several carloads were shipped during the week. The oranges are generally excellent in quality, but the yield in most sections will be below average. Grape fruit is smaller than usual, owing to the scarcity of water. Lemons are in fair condition, but show lack of moisture. Farm work is at a standstill and green feed has failed in nearly all sections.

Los Angeles Summary.—Oranges are generally ripening nicely and of good size and quality; crop less than last season. In the southern sections the fruit is not ripe enough for holiday trade. Lemons in some sections are the finest ever handled; generally an average yield. A carload going out daily from places.

Eureka Summary.—Clear, with some frost the fore part of the week. The present rain caused cessation of farm work. Grass and grain growing rapidly. Stock doing exceptionally well. Apple shipments continue.

Rainfall and Temperature.

The following data for the week ending 5 A. M. Wednesday, December 14, 1904, are from official sources and are furnished by the United States Weather Bureau for the Pacific Rural Press:

California Stations.	Total Rainfall for the Week	Total Seasonal Rainfall to Date	Total Seasonal Rainfall Last Year to Same Date	Average Seasonal Rainfall to Date	Maximum Temperature for the week	Minimum Temperature for the week
Eureka	2.08	11.13	14.45	13.72	62	42
Red Bluff	.36	11.59	8.49	7.81	56	32
Sacramento	.50	7.88	3.70	5.40	56	42
San Francisco	.30	9.00	4.54	7.47	61	45
Fresno	T	5.06	.68	2.49	60	36
Independence	.00	.45	.42	1.32	58	24
San Luis Obispo	.00	4.73	.50	5.43	68	34
Los Angeles	.00	1.48	.43	4.16	76	42
San Diego	T	.23	.40	1.95	68	48
Yuma	.10	.91	.66	1.42	72	38

ENTOMOLOGICAL.

Aphids Attacking the Apple.

By Warren T. Clarke of the University of California at the Fruit Growers' Convention at San Jose.

Among the insects attacking the apple in California are three different species of aphids, or plant lice. Given in the order of their prominence, and probably of their economic importance, these are the well-known woolly aphis (Schizoneyra lanigera, Hans.); the pyriform aphis (Aphis pomi, DeG.), sometimes known as the green aphis of the apple, and the globose aphis (Aphis sorbi, Kalt), also known as the rosy aphis. One of these aphids may become so numerous upon the apple trees that the value of the crop is much reduced, if, indeed, a complete loss does not follow. Probably every grower of apples in this State has had at some time the alternative of contending with these insects or of losing a considerable portion of his crops. The control measures that have been used by the growers in the past have not been uniformly successful, and it may prove valuable at this time to point out some facts in regard to these insects and their control, in the hope that this review of the subject may lead to better results in the future.

The Woolly Aphis.—This insect is most troublesome to growers of apples, though occasionally it makes its presence felt by the severity of its work on the roots of the pear, and a rather extensive discussion of it seems advisable. The wool-like masses of material with which the insects cover themselves, and from which they take their name, are familiar to all apple orchardists. The insects themselves often escape observation. They are small, louse-like creatures, ranging in length from $\frac{3}{50}$ to $\frac{4}{50}$ inch, and can be most readily studied after being washed clear of their wool-like covering, using 80% to 90% alcohol. This material entirely dissolves the waxy wool and exposed insects are seen to have a reddish-chocolate color. This body color is also evident if a few of the living aphids are crushed. The observer will seldom find any but wingless specimens of these plant lice, as the winged individuals are only occasionally developed under exceptional conditions, probably depending on the character of the food supply. The presence of the woolly aphis is most evident upon the portions of the trees above ground, and they may do an immense amount of damage to both tree and fruit when present in this situation. This may not be the greatest damage done by them, however, though it is the most evident. This aphis lives and thrives beneath the ground surface upon the roots of apple and pear trees more extensively than on the visible parts of the trees. When the aphids are present here they usually are found in greatest numbers at the root crown just beneath the ground, though they do not confine themselves to this situation, and their presence constitutes a menace to the life of the attacked trees. The cause of possible death is not usually to be traced to the diminution of the flow of sap, but to the fact that the attack of the aphids at the crown causes numerous suckers to start, and these new and tender growths are immediately attacked by the lice. This attack causes many of these suckers to form abnormal growths of soft and unhealthy tissue, which in time may crack open and become the lodging and starting place for toadstool fungus. When this infestation by toadstool fungus occurs the tree often dies in a year or two, and rarely or never recovers from an attack.

It can be readily understood that this underground habit of life in the case of the woolly aphis renders it an extremely difficult insect to combat. Under ordinary weather conditions this aphis is usually to be found at all times upon the limbs and branches of the trees, yet during the winter the number of individuals present is so reduced that it is usually a simple matter to destroy completely those living in this situation. The root-attacking forms, however, cannot be completely destroyed without killing the tree, and from here individuals can and do migrate to the upper parts of the trees when warm weather returns, and so the branch attack is renewed. When we remember that these insects in most cases reproduce parthenogenetically—that is, without the presence of the male insect, as do other members of the family—we can understand how even one migrating root aphis can found a colony. The spread of these aphids from tree to tree and from orchard to orchard occurs in several different ways. Birds may alight upon infected twigs and the lice, adhering to their feet, may be carried to other trees. Occasionally winged aphids appear and these fly to other situations. Many of the aphids when crawling about are dislodged by the wind, and on account of their fluffy, waxy coverings are carried occasionally to quite great distances. The writer has taken such wind-transported aphids at a distance of ½ mile from the nearest orchard. The distribution of the woolly aphis is, indeed, quite readily accounted for.

The great losses traceable to the woolly aphis have led to much study of the insect, with a view to their control, and so far as the branch-infesting forms are concerned this control is rather readily obtained. The control of the root forms is quite a different matter.

Enemies.—This is the only plant louse for which a serious attempt to control by means of predaceous insects has been made. The woolly aphis has quite an array of insect enemies, the most prominent of which are certain of our native ladybugs, or Coccinellidæ, which are each year shipped into the Pajaro valley in great numbers. These are known to science of Coccinella Californica and Hippodamia convergens. The two species occur together and are called red ladybugs, not being distinguished as different. In both species the wing covers are red, varying to reddish-yellow. In C. Californica these wing covers are unmarked, while in H. convergens they often possess black spots in many variations. The head and thoracic regions of both species are black, differently marked with white in the two species. There are several other species of Coccinallids present in our California orchards, but the two mentioned are the ones most frequently met. Both the larval and the adult beetles are predaceous upon the woolly aphis and are popularly supposed to do good service in our orchards in destroying many kinds of aphids, including the pest under discussion. They have the habit of bunching together in certain of our mountain regions, so that it is possible to gather them up in immense numbers, and they can be shipped into the infested orchards and there be liberated.

The history of all plant lice is one of ups and downs. They are all liable to mutiply with inconceivable rapidity. No other insect can compare with them. Fortunately they are extremely subject to external conditions which reduce their fertility and they then become victims of their natural enemies and may be nearly exterminated. The work of aphis destruction done by ladybugs, therefore, will at times be quite satisfactory.

Lace Wing Flies.—The larvæ of the lace wing flies (Chrysopa sp.) are energetic destroyers of the woolly aphis. The adults are graceful, rather large-winged insects of a delicate green color, with quite prominent golden-colored eyes, and are occasionally present in considerable numbers in our apple orchards. The rapid but not long sustained flight of these beautiful insects is very characteristic and they are quite easily recognized. Hibernation of the lace wing flies takes place in the pupæ form in protected locations, on or about the trees. The cocoons in which pupation occurs are spherical, about ⅛-inch in diameter, white in color and rather shell-like in texture. The adult insects emerge from these in the spring and egg laying begins. The eggs are placed singly or in groups of fifteen or twenty, dependent upon the species, each egg being attached to the leaf or other object where oviposition occurs by a thread-like stalk. The larvæ hatching from these eggs are voracious eaters and it is supposed that only the fact that the later hatching eggs are each out of the way of danger on the end of the stalks saves them from the cannibalistic tendencies of their earlier appearing relatives. These larvæ of the lace wing flies are rapid-moving creatures, six legs and armed with prominent pincher-like jaws. They usually hold a place next in importance to the ladybugs as destroyers of the woolly aphis and are to be numbered among the most helpful insects in finally disposing of a pest of plant lice in the apple orchard.

Syrphus Flies. — Hovering about the aphis-infested trees the observer will frequently see certain insects belonging in the group of true flies, two-winged insects. These creatures resemble some of the smaller solitary bees in general appearance and in the character of their flight, and indeed their appearance has been considered as a protective resemblance.

These are the so-called syrphus flies and are, in the larval form, predaceous upon the woolly aphis. The female syrphus flies place their eggs singly among the aphids on infested trees and the maggot-like, slow-moving larvæ hatching from these eggs immediately proceed to devour the nearby lice, occasionally doing quite as much service in this way in reducing the numbers of the pests as other larvæ of the lace wing flies.

The Battle.—Other insects, both predaceous and parasitic, are present in our orchards assisting in the destruction of the branch-infecting aphids, but do not approach those just mentioned in efficiency. In the case of an attack of woolly aphis the grower must judge in the light of his past experience whether it will be necessary to apply a remedy for the destruction of the pests or whether the period of increase will be short enough to make it safe to place his reliance upon these helpful insects.

When it is decided to undertake control work against the woolly aphis it should be begun early in the year as soon as the lice commence to appear. In the experience of the writer probably the most satisfactory and effective and at the same time the cheapest work can be done by what may be named the swabbing method. This consists essentially in carefully scrutinizing the orchard about once a week under the correct conditions and destroying the newly forming colonies of lice by swabbing them with either benzine or gasoline. The apparatus necessary in this work consists of a cloth swab at the end of a pole long enough to reach well up into the tree and a covered receptacle in which to carry the liquid used. The really essential thing for success in this method is an operator who can be depended upon to do careful and quick work in finding and destroying the aphid colonies. A good operator can cover several acres of trees in a day and by thus destroying the aphids when their attack begins the orchard can easily be kept comparatively clear of the branch infecting lice. If this work is not done thus carefully early in the year the lice may gain a strong foothold and more expensive and less effective spraying operations may become necessary. The writer has conducted successful spraying work against the woolly aphis, using both the 28° distillate oil in a 2% or 3% mechanical mixture with water and with a spray of tobacco decoction and kerosene oil emulsion.

The tobacco decoction was made by steeping tobacco stems and refuse from cigar factories for from two to three hours in water that was kept heated to just below the boiling point. One pound of tobacco refuse was used to each two gallons of water, and by this steeping process a quite strong tobacco juice resulted. The kerosene emulsion was made by dissolving 7½ pounds of ordinary laundry soap in fifteen gallons of hot water, and to this adding five gallons of kerosene oil. The soapy water and the oil were thoroughly churned together for from fifteen to twenty minutes. This was done by pumping back the material on itself through the spray nozzle. The result was a fairly stable emulsion of a creamy consistency. The spray material was made up by taking forty gallons of the tobacco decoction and to it adding 3½ gallons of the emulsion.

This was kept well stirred in the spray tank while being applied, and proved quite effective in destroying the lice, when care was exercised that all were thoroughly wetted by the spray mixture.

The Root Form.—If we had simply the branch-infesting lice to deal with there would be grounds for hoping to entirely eradicate the pest; but, on account of the root attack, we can only hope to palliate the trouble. As has been previously mentioned, the great danger from the root attack comes from the aphids clustering at the crown and rendering this region susceptible to the entrance of toadstool fungus. It has been known for many years and entirely confirmed by our own experiments that the aphids can be driven from this location by working into the soil about the trunk of the tree a liberal supply of wood ashes and repeating this treatment about once in two years. Other materials have proven quite as effective—for instance, the use of tobacco stems and refuse. To apply this dig the soil away from the trunk of the tree for a radius of 2 feet and then fill this opened-up region with a mat of this tobacco material, covering it with an inch or two of soil. The effect of both these methods of treatment is to cause the aphids to withdraw from the crown of the roots, where their presence is the greatest menace to the life of the tree. In the other situations where they find lodgment their powers for harm are comparatively small if the tree is well cared for. In the case of new plantings in regions liable to serious injury, stock grown on resistant roots should always be used. The Northern Spy appears to be the most satisfactory resistant in use. Undoubtedly properly selected roots of this variety are able to successfully withstand the attack of this aphis, and new plantings made upon this root in regions most susceptible to the injurious action of this insect can be kept thoroughly clean from the pest at a very small expense.

Leaf Aphids.—Two other species of plant lice, occasionally causing damage in the apple orchards of California, are found only above ground. They are known to science as Aphis pouri, DeG., and Aphis sorbi, Kalt.

The former is sometimes known as the "green aphis of the apple," but is better described as the "pyriform aphis." It frequently does great damage to young apple trees in some parts of the State. The writer has seen many trees so severely injured by the attack of this plant louse that their removal and destruction was necessary.

This aphis winters in the egg form on the smaller twigs of infested trees. These eggs sometimes are so abundant as to be very conspicuous. They are shining black in color, quite small (about ½ mm. in diameter) and are placed in quite exposed situations on the smooth bark of the twigs. Sometimes these eggs will be laid in such profusion that the infested twigs will have the appearance of being peppered with them and can be easily distinguished from twigs not so affected. From these eggs wingless parthenogenetic female aphids hatch in the spring, and they and their rapidly-produced descendants soon cover and either dwarf or destroy the new growth of the tree. Occasionally winged individuals appear among these, and by means of them the lice spread from tree to tree. Parthogenetic reproduction continues until quite late in the year, when male and female aphids appear, and by these females the wintering eggs are laid.

The greatest damage done by this aphid is to young trees, and because of the fact that their attack causes the affected leaves to so curl that the lice are protected quite effectively, remedial work directed against them must be carefully and thoroughly done. At pruning time all twigs bearing eggs should, as far as possible, be cut out and destroyed. No spray materials strong enough to destroy these eggs can be

safely applied to the trees; so winter spraying offers little hope of control. When the lice first appear in the spring, very satisfactory control work can be done by bending down and dipping the affected twigs in tobacco juice, prepared as already described. When this bending down is not possible, then the infested parts of the tree should be liberally sprayed with the same material. The writer has in his experimental work obtained a good degree of control in the way thus described. It should be borne in mind that delay in beginning the work renders the task of suppression much more difficult and expensive. The same series of predaceous Coccinellidæ, Chrysopidæ and Syrphidæ noted as occasionally attacking the woolly aphis also attacks this, the pyriform aphis; but, as this species increases more suddenly, they are of rather less value in preventing injury. Occasionally, also, we find the eggs of this aphis destroyed by one of the parasitic chalcis flies, and, indeed, in some parts of California the great majority of the eggs of Aphis pouri were so destroyed in the fall of 1903. Unfortunately, however, enough aphid eggs escaped to start the infestation the next spring, and in many instances by midsummer the attack of the lice was as severe as though the eggs had not suffered so severely during the previous hibernation season.

The Rosy Aphis (Aphis sorbi, Kalt).—The third aphis that we have to deal with in our apple orchards has been called occasionally the "rosy aphis of the apple." We believe, however, that the name "globose aphis" better describes it and segregates it from the aphis previously described, that being pear-shaped, while the one at present under discussion is comparatively globose in form. The two species of aphids (A. pouri and A. sorbi) are sometimes found working together, and, indeed, until quite recently were considered as one species under the name Aphis mali, Fabr. Recent studies, however, have fully established the correctness of this separation to two species, and, though they are frequently found in company, yet they are easily distinguished one from the other.

The species now under consideration (A. sorbi) is generally found upon the older trees, and while it seldom appears in sufficient numbers to reduce the growth of these, yet it does frequently cause considerable loss by stunting the growth of the apples themselves. We have had the opportunity to observe the work of this aphis in several different sections of the State and find that its life is passed about as follows: Eggs are deposited on the twigs and trunks of the affected trees in the fall of the year and the insects winter in this form. These eggs are never so numerous as is the case with Aphis pouri, nor do they seem to hatch so early in the spring as do these latter. The newly hatched lice seem to prefer to feed in the neighborhood of the young fruit or even upon it, and often in this situation they can be found in great numbers completely covering the small apples. The individuals found at this time are for the most part wingless parthenogenetic females. and many generations of lice may be produced here with but few winged specimens appearing. During the early summer the winged insects are seen in great numbers and a migration seems to occur. It is claimed by certain observers that at this time this aphis seeks some food plant other than the apple. While the writer has never been able to identify this aphis on any plant other than the apple, yet the fact remains that during the summer A. sorbi entirely deserts these trees. In the fall winged viviparous females and males appear on the apple trees and these females give birth to oviparous females, which lay the wintering eggs. The life cycle is an interesting one and presents certain features worthy of protracted study. The main damage done by this aphis, as has been previously stated, consists of a stunting and dwarfing of the affected fruits, and the apples so attacked never recover, but remain upon the trees small, distorted and useless. We have examined some orchards where the loss caused by this aphis would average from one and one-half to two boxes of fruit to the tree.

These lice also attack the leaves of the tree, causing them to curl and twist together, and the lice find protection in these distorted leaves. As in the case of Aphis pouri, control work directed against them must begin early in the season and must then be thoroughly done. If we delay operations until the leaves become well curled our task is rendered much more difficult and expensive. The writer has found both the tobacco decoction and the mixture of this material with kerosene emulsion (described on a previous page) effective sprays for the destruction of Aphis sorbi when used early in the season. If for any reason the spraying operations have to be delayed then the 28° distillate oil in a 2% to 3% mechanical mixture with water, as used in combatting the woolly aphis, will be found more satisfactory.

The same series of predaceous and parasitic insects noted as attacking both Schizoneura lanigera and Aphis pouri are found at times devouring the aphis here under discussion.

Our studies then of these three aphids attacking the apple show that a great aggregate loss is caused by them annually in this State.

While in some cases a let-alone policy will often be followed with but little loss, notwithstanding the very small part played by predaceous and parasitic insects in assisting to reduce the numbers of the lice, we are forced to the conclusion that insecticidal materials and resistant stock are the only reliable and effective control measures yet at hand. This use of insecticides will be effective only when the orchardist is observant, timing his operations properly and applying the available remedies in the proper manner. When this is done he can cheaply control these pests and be sure of the most satisfactory results.

THE DAIRY.

The California Creamery Interest.

Opening address by President George G. Knox of Sacramento at the California Creamery Operators' Convention at Fresno.

I believe that every one who is conversant with the butter interest of our State will agree with me that we have reached what might be termed a turning point in the history of our dairy industry, and in the future there will be more room for the activity of an organization like ours than in the past. Although prosperity seems to be smiling on about every other line of industry, she seems to have frowned upon the California dairymen for the past month, while she has taken a deliberate kick at the dealer, who, by storing the surplus butter that afforded the producer his prosperity a few months ago, is up against heavy osses. I doubt if any one here will agree with me that we have reached a period of overproduction of butter in our State. What more could have been expected when we are to-day meeting in a city that, less than ten years ago, was a heavy buyer of butter, which is to-day the center of a district shipping to markets from which it bought butter only a few years ago.

The Dairy Field.—But this is only part of the truth. From the foot of Mount Shasta in the north to the Tehachapi mountains in the south is the greatest dairy territory under the sun, where there is now produced annually 10,000,000 pounds of butter, while not many years ago the same territory purchased half this amount from outside territory. I am advised by the State Dairy Bureau that the production of butter in the State for 1904 will reach well nigh 40,000,000 pounds, or almost thirty pounds per capita of our population.

It is obvious that either dairying will get a setback or some channels must be found to dispose of this butter. We must first look for control in those markets where we have the advantage in distance and cost of production. The export trade to the Orient, the trade in Alaska, which will probably never become a producer of butter, but which is destined to rapidly become populated with consumers, all of this trade should be corralled in the interest of California butter. The States of Oregon and Washington and the densely populated territory south of the Tehachapi mountains and the Mountain States do not yet produce enough butter for their consumption, as is indicated by the high markets that often rule there. To supply this trade, two things in my estimation are essential, and the California Creamery Operators' Association may be instrumental in bringing them about. They are, first, a high and uniform standard of quality, and secondly, a uniform package. With these available in the market that gets a surplus, whether it be San Francisco, Los Angeles, Sacramento or Fresno, a telegraph order may be hastily filled for any amount and with the assurance that the purchaser—no matter where located—will get an article with the name of California on it, which will mean that it is a standard for quality.

Outlet Needed.—At the rate of this past year's production we are still likely to have butter to spare after looking out for the field mentioned. If that is the case, the East alone will furnish us an outlet, in which case we have an immense advantage in cheap production, but we must compete with the great butter States of Illinois, Iowa, Wisconsin, Minnesota and others in the East on quality. Our Association has tried to emulate the good work done by similar organizations in those States by means of competitive butter exhibits, but our efforts have not met with the same measure of success. A butter contest in these States brings out entries by the hundred and it is not uncommon for a butter maker to exhibit butter every month in the year, even if the cash awards are not liberal—the satisfaction of learning alone being considered sufficient compensation. The California butter maker must meet this competition or one thing is sure to follow, and that is that Eastern men will be in demand.

Against Centralization.—In the way of securing enlarged markets, meeting their demands in quantity and quality and in economizing in production, there is much claimed for the centralized creamery. That this is true in a measure cannot be denied. There is certainly nothing to be gained by multiplicity of small plants, with a consequent variety of quality of goods that they offer in the markets, but the centralized creamery drives directly at the interest in the members of this organization, as it means the displacing of our plants and our positions by one or a few plants and few men, to say nothing of the grip the system would have upon the dairy industry should it once succeed in destroying competition for the purchase of the milk of the dairymen. There is not a creameryman in the State, who is conversant with the success of these centralized concerns in the East, who is not in constant fear of the time when a large amount of capital may back similar efforts in this State.

The preventing of this consummation will depend upon the progressiveness of our creamerymen. We must oppose centralization with its own weapons. These concerns secure the best talent available in butter makers. They employ the most modern methods and try everything new that they learn or that others learn and use only that which brings about the best results and greatest economy. I can see no reason why a creamery doing a moderate volume of business and located at the source of its butter fat supply cannot compete with the centralized plant. The centralized plant, regardless of its financial backing, can only win out on the quality of its goods, and if we let them in it will be because they control the brains that creameries of the present time don't. Our Association is trying to be a factor in this creamery brain development.

Water.—A subject of importance to creamerymen that I cannot pass over without commenting upon is included for discussion in the programme of this convention. It is that of the water allowable in butter. There has developed among creamerymen a tendency to get all the water in their butter they can. Various methods have been published whereby this is said to be accomplished. I have studied these closely. If a few years ago a butter maker had been told to make his butter according to the methods calculated to increase his yield, he would have indignantly stated that it would spoil his butter. Are we not on the wrong track when we ignore the old methods whereby we look for quality to gain a pound or two per hundred in quantity? I hope this question will be fully discussed when it comes up in its order.

Farm Separators.—The farm separator system is here to stay. Many of us opposed it, but it shows that the creameries are only one factor of the butter business. This being the case we creamerymen have lost valuable time and effort in opposing them which might have been used to better advantage in making the best out of the situation. The farm separators are not a theory, but a condition. We have made careless patrons improve the quality of their cream, and have drawn the line between the patron who can be induced to take better care of his cream and the one (a small number generally) who persistently refuses to be moved by the creameryman's efforts. This class I am convinced can only be spurred up by the arm of the law.

I should like to dwell upon other questions often discussed at our meetings, that of the misleading and unreliable method of quoting our butter markets and the selling of butter on its merits. I should like to refer to the oleomargarine situation, which our State and Federal laws have so well under control, but which are not altogether sure of their hold. Oleomargarine, masquerading as butter, is an enemy of the dairy interests that should be shown no quarter. Our dairy educational forces at our University and the Polytechnic school at San Luis Obispo need our encouragement and assistance for further usefulness. We must look out for legislation detrimental to our interests and encourage that which might be beneficial.

HORTICULTURE.

Pear Blight in Northern California.

By Prof. R. E. Smith of the University of California at the Fruit Growers' Convention.

It is not the purpose of the writer to describe, or discuss, in this paper the nature and history of the well-known pear tree disease called "blight," since the subject has been fully covered in various agricultural publications at different times. The previous history of the disease in California, the destructive effects produced by it, particularly in the district centering about Fresno and Kings counties, and the general nature and appearance of the blight are but too well known to almost every pear grower in the State, and need no special consideration at this time. It is rather my purpose at present to consider in a practical way a more recent development of the subject which has the greatest importance to one of our best and largest fruit industries.

Previous to 1904 the pear growers of the Sacramento valley had looked with complacent sympathy upon the situation in the upper San Joaquin region, in respect to the destruction of the orchards by blight. The conditions then existing are well stated in the report of the State Board of Horticulture for 1901–1902, from which I quote as follows:

Radiating from these counties (Kings, Kern and Tulare) the disease seems to decrease in virulence, until in the more northern counties it is unknown. North of Fresno the disease has not obtained any serious foothold. It is not general, nor is any great damage apprehended from it.

The prevalence of blight in the portion of the State mentioned, and the fact that year after year passed

with no spread of the disease toward the north being observed, gave rise to the general belief that climatic or other natural conditions produced immunity of the northern orchards toward the blight, since otherwise a more rigid spread would be expected. In the spring of 1904 this rosy illusion was rudely shattered. Reports began to come from many points far north of the previous blight limit, of something new affecting the pear trees. This trouble had the appearance of blight and was soon determined by various authorities, to be the typical disease. The reports came from various localities, indicating a considerably widespread outbreak and one of so serious a nature that the writer in the latter part of June made a tour of the whole Sacramento valley, so far as pears are growing, to determine the extent of the blight occurrence and the nature of the situation in general. The conditions found were stated in an article printed in the horticultural papers as follows:

That the true blight, identical with that which has devastated the pear orchards of Fresno, Kings, Tulare and Kern counties, has occurred this year in all the counties of the Sacramento valley there is no question. The writer has personally visited numerous orchards in Solano, Yolo, Colusa, Glenn, Tehama, Shasta, Sacramento and Contra Costa counties, and found an abundance of the typical disease scattered all over this section of the State. From Vacaville to Colfax and from Martinez up to Anderson the blight is present in numerous orchards. In a few the disease has not yet appeared, in some it is very severe, but in most cases the trees are slightly affected in a branch or twig here and there. In this year's crop no great loss will result; scarcely any in most cases; the danger is for the future.

This serious situation did not go unnoticed by those whose duties include the consideration of just such matters, and the horticultural commissioners of most of the counties mentioned became active in advising and enforcing the best known means of blight control. This consisted in cutting out the blighted twigs in order thereby to check the spread of the disease. Sacramento county was particularly active in this direction as the most general appearance of the disease occurred in that county in the reclamation districts below Sacramento City. Reports of pear blight occurrence in the Sacramento valley were soon followed by similar news from San Luis Obispo county, where another very serious outbreak developed and appears to be spreading up the coast from south to north. As the summer went on, the writer, being much in the field for various purposes in connection with plant disease work, was able to follow quite closely the development of the blight and the results of efforts made to suppress it. It is, therefore, possible to speak with some degree of certainty as to the situation now, at the close of the season, and the outlook for the future.

The Disease.—We know in general from the history of pear blight in California that it is the most destructive plant disease of any which occur within our borders. We know that no method of treatment has succeeded in preventing the ruin of the pear industry in this State wherever the blight became abundant. We know that the blight is present and generally distributed in our best and greatest pear growing section, the Sacramento valley. This is the situation in a nutshell, laying aside all theories, hopes and speculations, either of good or bad. The disease is a bad one; it has not been satisfactorily controlled in California; it has now appeared where very great damage may result.

According to our best knowledge of pear blight, it is caused by a bacterial organism which infects the young growth of the pear tree in spring, developing in the succulent cambium layer, or inner bark, spreading down into the twigs and larger branches and thus causing them to wither and die and ruining the tree. Infection takes place largely in the blossoms, whither the germs of disease are brought by bees and other insects. From the affected parts a sticky juice or gum is produced which contains the germs of the blight and attracts the insects. Such insects are supposed to carry the infection to the blossoms and thus spread the blight from tree to tree. Based on this knowledge of the origin and spread of the disease is the pruning and cutting-out method of control, with the idea of removing all affected wood at the end of the season, so that there will be nothing left to start the disease next spring. This method has proven successful in many parts of the country, and the pear blight controlled thereby.

Rapid Spread.—In California we can scarcely doubt that blossom-visiting insects are largely instrumental in spreading the disease, yet the widespread occurrence of blight last spring in regions more than 200 miles from any known source of infection is truly remarkable. While we cannot be positive that there had been no pear blight before in the Sacramento valley, it is practically certain that the majority of the orchards affected were hitherto free from the disease and that it spread a great many miles during the past season, more in fact than in all the previous years of pear blight in California put together. Why and how this occurred is one of the questions which needs to be answered, if the disease is to be controlled satisfactorily in this State. The cutting-out method of blight suppression, the only one effective at present, has been practiced with various degrees of thoroughness in all parts of the State where the disease has occurred. It is perhaps too early to judge of the results of cutting done in the Sacramento valley this summer, although inspection at present shows about as much blight as ever all over the valley, except where cutting has been done very recently. The advisability of general summer cutting by our average farm labor where the blight is actively spreading and in its most virulent condition is somewhat doubtful. Certainly very thorough cutting in December, when the green leaves have fallen, is advisable and to be strongly urged upon every pear grower. Whether this alone, however, can ever be made a satisfactory means of thorough control in California is open to serious doubts, judging from present conditions in the upper San Joaquin. It may be said that the work was not thoroughly done, that this or that individual orchard is in better condition than the average, but taking the general results in this section as a standard, the present condition of the pear orchards and pear business in Fresno and Kings counties, as compared with a few years ago, we can reach but one conclusion as to the effectiveness of this treatment. Apparently the spread of the disease and its progress in the tree are so rapid in our climate that thorough cutting out results at last in the extermination of the tree rather than that of the disease.

The possibility of the blight dying out or subsiding of itself may be and is being considered. The opinion is frequently expressed that the disease has run its course in the San Joaquin valley and is dying out. Whether this be true or not, such a result offers little hope to the regions more recently affected if the blight is to have the same effect before dying out as in the lower counties. In short, let the Sacramento valley pear grower, in whose orchard the disease has just started, visit Fresno, Hanford or Visalia, examine all the pear orchards, good and bad, remaining there, and decide for himself whether the blight is controllable by present methods or its destructiveness passed away.

Methods of Control.—Methods of control, other than that mentioned, have been generally put aside as impracticable, or not adapted to the nature of the disease. In this respect, however, it is my opinion that too much has been taken for granted. In the words of a recent publication, for instance: "Spraying, fumigating, and all other external remedies are utterly worthless, as the disease is in the sapwood of the tree, protected from all external influences." Yet on the same page we read: "There is but little question but that our honey bees are an important source of infection, flying, as they do, from blossom to blossom and carrying the germ to the most susceptible point of entry of the plant." If then, we may well ask, the disease is "protected from all external agencies," and its germs on that account not to be reached by any spray or similar treatment, how does the honey bee obtain such germs to carry to the blossoms? The disease once started is, of course, located inside the tissues of the plant, but so is the peach curl, the asparagus rust, the potato mildew, and every fungus disease with very few exceptions, yet these we successfully treat by spray methods, destroying the spores or germs before infection takes place. In no plant disease do we expect to destroy the parasite once in the tissues, but in every case, fungus or bacterial, germs which are to spread the disease to other plants must come to the surface and are there destroyed by successful

(Concluded on page 398.)



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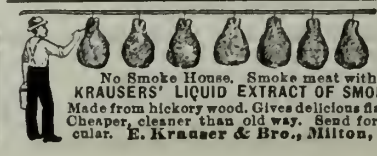
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Agricultural Review.

Butte.

TO IMPROVE OUR WHEAT.—Chico special to Sacramento Bee: A number of samples of wheat from different parts of the world have just been received at the Plant Introduction Garden near this city, and will be tested with a view to finding a wheat which will not deteriorate in certain qualities after it has been grown in this State. Although there is but a small quantity of the seeds of each variety, they will be planted and the crop harvested next spring, and it will then be known whether or not the wheat has retained the same nitrogenous qualities which it possesses in its native clime. Besides the samples of wheat, there have been received at the Plant Introduction Garden a large number of other seeds. Pistache seeds were planted and now there are about 6000 little trees growing. The larger part of these young trees will probably be sent back to Washington, from which point they will be distributed to various parts of the United States.

SOME CUCUMBER.—Chico Record: A short time since H. C. White, the veteran stage driver, brought to town a cucumber which he had raised at Forest ranch which measured 14 inches in length. W. C. Stevens last evening brought in one which measures 15½ inches in length and tipped the scales at two pounds and thirteen ounces.

ORANGE GROWERS MAY ORGANIZE.—Sun: The talk of organization among the orange growers of Oroville, Thermalito and Palermo, is again agitated. As soon as the present crop is all marketed the matter will again be taken up and an organization perfected in time to handle next season's crop. This proposition was taken up a few months ago, but as it was then too late to accomplish anything for this year's crop, which was almost ready to harvest, the orange men agreed to let the matter drop until the coming January. The growers do not think they are getting all the benefits they should from their crops, and are anxious for an organization which will work to their interests. On just what plans it is intended to organize has not been decided, but present indications are that before another season some kind of an organization will be found.

Fresno.

GLANDERS AND BLACK LEG.—Republican: Veterinary Inspector H. W. Turner has filed his November report with the board of supervisors, which says: "During the month of November I have to report having found several cases of infectious diseases among horses and cattle, to-wit: Two horses and one mule with glanders in a very malignant form. I caused the animals to be killed and the carcasses burned. I also found a few cattle affected with black leg and a small number with anthrax, for which I prescribed remedies and gave instructions for such precautions as would prevent the spread of the diseases. Having heard nothing of new cases for quite awhile, I am inclined to the belief that no serious results will follow the new cases mentioned."

Los Angeles.

FINE ORANGES.—Redlands Facts: The orchards of the San Dimas district have never produced such choice oranges as will be marketed this season. Spraying and fumigating the past year have been thorough and the fruit is clean, smooth and of fine texture. The growers are anticipating good returns.

Mendocino.

EARLY OATS.—Ukiah Republican-Press, Dec. 9: Thomas Garner, whose place is on the asylum road, east of the railroad, brought to the office Monday from his place a bunch of black oats 4 feet high, which had headed out as nicely as they ever are.

Sacramento.

VINE ACREAGE ON THE INCREASE.—Union: The present season has seen important additions made to the vineyard acreage of this State, particularly in this county, much of the planting being done on the advice and under the direction of European specialists. It is known, too, that agents of European wine makers have been in the valley during the last few years quietly looking over the ground and much of the activity in vine planting may no doubt be traced, if not to their promotion, certainly to their influence.

San Bernardino.

WAR ON PARASITES.—Redlands Facts: Secretary S. A. Pease of the horticultural commission has filed his report for the month of November with the county supervisors, and says for the month of November the horticultural commission has been busy inspecting and platting orchards infected with red and yellow scale and immediately followed with the outfits for disinfecting. Measures have been taken to have all picking boxes fumigated before being sent a second time into the orchards and also to see that no pests be carried from one orchard to another by the use of picking sacks or other appliances. With the strong probability that the scutellista will control the black scale in the future the commission intends making an earnest effort to reduce the red and yellow scale and if possible to eradicate them from the orchards of this county. To this end it is the intention to have inspectors examine all infected orchards as nearly as may be every two months, that being the length of time necessary to produce a new generation of these insects. A few colonies of Vidilia have been supplied where white scale has appeared in the orchards and the routine work of the commission has been attended to.

San Joaquin.

POTATOES IN HEAVY SUPPLY.—Stockton Independent: Almost every craft that comes into port these days brings in potatoes. The past two weeks thousands of sacks have been brought here and probably not half of them have been shipped out, as the demand for California tubers throughout the Middle States is not very heavy at present. It is estimated that at least 30,000 sacks have been stored, awaiting higher prices. Some of the commission men say that there will be fully 50,000 sacks stored here by the first of the year.

Santa Clara.

GROWERS PLANTING LARGE NUMBER OF TREES.—San Jose Herald, Dec. 11: In spite of the deprecatory stories made by a few upon the advisability of a continuance in growing prunes, present indications point to the fact that local orchardists have not lost faith in the fruit as a money producer. Inquiries made by the Herald this morning regarding the prospect of planting young trees, resulted in a general statement made by the local nurserymen that "the coming year, to judge from the present outlook, will be a big one in the fruit line." Year before last there was a slump in prices of prunes. This, it was thought, would materially affect the next year's planting. The nurserymen were greatly surprised when the demand for young prune trees last spring far exceeded the supply on hand. This year a large number has been secured, and although it is still early for planting, thousands have been sold. One mountain rancher near Saratoga has contracted for a thousand young prune trees to be set out this spring. He seems to be satisfied with the outlook. Peach, apricot and cherry trees are very nearly sold out. Cling peaches are especially in demand, although quite a number of Muirs have been distributed. Few cherries are left, and apricots seem to be popular. Freestone peaches are on the small end of the sales. The main reasons for the popularity of the cling is the contracts that the California Canning Association have made with the majority of the orchardists for their entire crop of cling peaches for a number of seasons in advance, ranging from five to ten years in length. With the sale of their crops thus assured the fruit growers are safe in investing in clings.

Shasta.

PROSPEROUS BEAN GROWERS.—Redding Searchlight: The bean growers of the Round Mountain country have been as prosperous this season as the hop growers of Twin Valley. Beans have become a staple agricultural product on the little mountain ranches of the Round Mountain region, and each succeeding year sees a larger acreage devoted to the vegetable. The yield this year has been a bounteous one, one 17-acre field producing almost fourteen tons. The market price being 4c a pound, or $80 a ton, it is easy to be seen that the raising of beans is a profitable industry in the Round Mountain country.

Sutter.

BEAN OUTLOOK.—Yuba City Independent: We are informed this week that the big tract southeast of Sutter City, owned by John Markley and associates, will soon be in the hands of the plowmen, and that nearly 3000 acres of this fertile soil will be prepared for the bean crop of next season. John Markley expects to put in 800 acres, Messrs. Ennis & Brown about 600, Mr. McGraph 400 and Judge P. J. Shields about 600 acres. This will be mostly beans, though some buckwheat and Egyptian corn will be planted.

Tehama.

BOUNTY ON EAGLES.—Red Bluff News, Dec. 8: The board of supervisors at Wednesday's session passed an ordinance fixing a bounty on eagles' heads of $1 each, and the new law will go into effect at once. Supervisor Kauffman introduced the resolution and it was carried by the unanimous vote of the board. The addition of this bird of prey to the animal pests on whose heads a price is placed will be welcome news to sheepmen.

Tulare.

TULARE LEMONS.—Visalia Times: J. W. C. Pogue, who is quite extensively engaged in lemon culture at Lemon Cove, reports a bright outlook for that region. He is in good humor over the sales of his first pick of lemons. It consisted of 868 packing boxes of lemons, all of which he has received returns for excepting twenty-five boxes yet out. The cash returns net amounted to $2229.90. The first pick amounted to 1718 picking boxes and second pick 2574 picking boxes. Returns for the latter are not yet in. Mr. Pogue has 74 acres in lemons.

MAGNIFICENT CLUSTER OF ORANGES.—William Swan, who resides 13 miles northeast of Visalia, brought to the office the most beautiful cluster of oranges ever seen in these parts. The cluster was plucked from a 12-year-old tree that he purchased from Tom Jacob & Bro., the well known nurserymen, and contains 21 bright yellow oranges. They are of the Australian Navel variety, and while not so large as the Washington Navels, they are of good size and excellent quality.

SALE OF ORANGE ORCHARD.—Porterville Messenger: Robert Horbach closed an orange land deal yesterday which will be of interest to many and which involved the sum of $3500. The sale was that of Henry Anthony's orchard of ten acres, located in the Hermosa Colony, which passed into the hands of Dr. Harroun of Santa Fe, New Mexico. Only a little over a year ago Mr. Anthony purchased the tract and set it out to oranges, paying $1500 for the property. He now disposes of it for $3500.

Ventura.

LIMA BEANS.—Los Angeles Herald: According to advices from the Lima bean country, the situation in that article is one of "freeze out," in the language of a prominent Ventura dealer. From this shipper it is learned that a strong hand is being played by the Lima bean growers and that they will not concede a point. This is the "freeze out," as the ranchers are desirous of forcing sales at the prices they name. This has caused a temporary lull in Eastern shipments, and sales are made only in Los Angeles, San Francisco and other points to meet current needs. It is this point on which the market hinges, as growers say if they can cause a gradual depletion of stocks at present prices, the remainder of the stock will go at full rates, as it is a long time until next October, when the crop of 1905 will have been gathered. The Lima bean stocks in Ventura county at the opening of the season was 337,000 sacks. This is now reduced to 317,000 sacks. What grains of comfort can be taken from the foregoing must be small to the bear operator.

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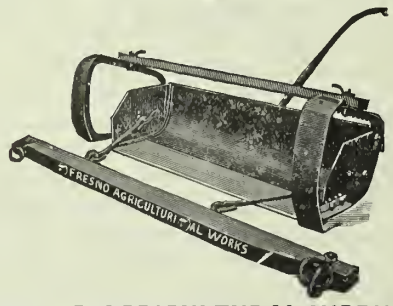
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Commend me to a friend that comes
  When I am sad and lone
And makes the anguish of my heart
  The suffering of his own;
Who coldly shuns the glittering throng
  At pleasure's gay levee
And comes to guild a somber hour
  And give his heart to me.

He hears me count my sorrows o'er,
  And when the task is done
He freely gives me all I ask—
  A sigh for every one.
He can not wear a smiling face
  When mine is touched with gloom,
But, like the violet, seeks to cheer
  The midnight with perfume.

Commend me to that generous heart
  Which, like the pine on high,
Uplifts the same unvarying brow
  To every change of sky;
Whose friendship does not fade away
  When wintry tempests blow,
But, like the winter's icy crown,
  Looks greener through the snow.

He flies not with the flitting stork
  That seeks a southern sky,
But lingers where the wounded bird
  Hath laid him down to die.
Oh, such a friend! He is in truth,
  Whate'er his lot may be,
A rainbow on the storm of life,
  An anchor on its sea.

—Springfield Republican.

He Came to His Own.

Herbert Vinton passed his hand caressingly over his rather grayish though still luxurious locks, and studied the picture before him. It was the photograph of a girl, or rather of one who had been a girl the day before.

Around him were many evidences of wealth. In spite of his bachelorhood he had all the cares and comforts of a splendid and well-ordered house. He was not a clubman; he had little taste for society; he had traveled all he cared to; he had grown weary of plays, and at fifty, still as vigorous as he had been at thirty, he preferred to spend his leisure moments in his library.

"Yes," he said to himself, still looking at the picture, "if her mother could be as she was twenty-five years ago they might pass for twins."

He drew a long sigh. Twenty-five years ago her mother had said no to him and married a man who was fifty-five.

"I was poor then," Vinton mused, "and he was rich. Now I'm rich and he—well, I forgive him. He's dead. And they are poor, and she is still ready to give—not her soul this time, but her daughter, 'for money.'"

The letter that lay on the desk was from her. It was the first she had written to him since their parting. She had at least been loyal to the man she had chosen. Why, he asked himself, had she sent him the picture of her daughter, if not for the purpose that had first suggested itself to him? Why had she not sent her own? Her letter, coming so soon after the beginning of her widowhood, and the loss of her fortune, meant but one thing.

When he entered his library the next morning his eyes at once sought the picture of the fair-faced girl.

"I'll go," he said to himself, after taking up the portrait again and gazing at it for a long time. "Why shouldn't I? There will be no unfairness about it—not, at least, on my part. They—both of them—owe it to me. I've waited twenty-five years. Why shouldn't I be rewarded now? It will be only a case of turn about. He took her in the glory and freshness of her youth, when she rightfully belonged to me. But here"—he looked earnestly at the picture again—"she has returned just as she was when they robbed me of her. I will have her. She is my own. Fate has given her back to me."

He found them in plain little quarters, and Eleanor—they had even given her her mother's name—placed her hands in his and looked up with a look that awoke a thousand memories in him. It was the look that he had so often, waking and dreaming, seen before. Her fingers seemed to give the old, glad, thrilling touch. Her voice was the voice that had been calling him all through the lonely years. He had found his love again—fair, undefiled, just as she was when he had lost her.

The other looked upon them and was silent. Youth was no longer hers. Gladness was not in her eyes. Her smile was not the eager smile of hope. Much of her beauty she retained, but it was not the beauty that inspires love. It was such beauty as might be chiseled out of marble.

In the days that came and went Vinton's joy was boundless. There had been dark years, in which he had been sure that he would never taste the sweets of love again. He laughed at himself for having harbored such doleful thoughts. And always he kept assuring his conscience that he was preparing to claim only what was his.

"She is mine; she has been returned to me by them that did me wrong," he declared. "I have won her by waiting. I will have my own."

Eleanor did not dread his coming. Often she sat at the window looking eagerly for him. She had learned from her mother why he had been living in loneliness. She had heard from her mother of the wrong that he had suffered. She had learned that it was their duty to make reparation. Once, in a moment of depression, she has asked:

"If he were still poor would you think I ought to give myself to him to right the old wrong?"

Her mother had turned from her and failed to answer.

They returned to something akin to luxury. The doubts concerning the manner in which they were to get along had been cleared away. In the mother's eyes there was a look that was new and strange. Not a look of joy, not a look of contentment. Perhaps the look of the lioness that has eaten her whelp to satisfy her own hunger. Perhaps.

But Eleanor discovered in good time that she was not to be sacrificed. Affection for Vinton had found its way into her breast. She did not weep for shame of the thing she was to do. She forgot that through her a debt was to be paid, and that through her they were to be insured against poverty. She forgot all save that Vinton was estimable and kind, and that it made her glad to know that he was happy.

One day when she was away buying things for the wedding, her mother and Vinton sat alone together.

"You are going to be very happy—after all," she said.

"Yes," he answered—"after all. My glad old dream is to come true—after all. You are good to let it happen so; but I shall have only what is mine—after all, you know. The years I have lost can never be given back, they are gone forever. Still, I gladly give them for the joy that is returned to me. Only those who have been robbed as I have been robbed and who have won their treasures back can know the gladness that comes with the returning of what is my own. Only they who have been loved and lost can know how deep and how dark is the valley which love has come to call me out of. Forgive me for saying these things to you. I know you cannot understand them. It is my present joy that makes me look back with pity for the hopeless thing I was down there in the darkness where it was so lonely and so cold. I have waited so long, I have been denied so long that I am intoxicated by the sweet aroma even before the cup touches my lips. You have not—"

With a pitiful cry she put her hands to her face, and for a moment, while she sobbed, he stood looking at her. Then he lifted her up, saying:

"God help me! I had forgotton that all I have been denied you also have been denied, and that if I return to claim my love where it was taken from me you must go on through the darkness alone."

Eleanor drew back from the half-opened door and went away softly, leaving her mother in his arms.—S. E. Kiser, in Chicago Record-Herald.

A Hanging Matter.

We hang a man for murder,
  He has a hang-dog look;
We hang a door, a picture, too,
  We hang around the cook.
A gun hangs fire, indeed, at times;
  The robin hangs his wings,
We hang our banners on the wall,
  The coward hangs back from things.
We hang our coat upon a chair—
  That's queer, you must admit.
A hang-nail, sure, may bother one,
  And hangers-on you knew;
Your sweetheart hangs upon your words
  While hanging on to you.
The sky is often hung with clouds,
  The bore hangs on a joke,
A mule hangs out despite the lash
  That hangs upon a stroke.
The moon hangs low within the sky,
  But prices still hang high;
We let the trusts together hang—
  I'm hanged if I see why.

—Leslie's Weekly.

Getting at the Facts.

It was a bright moon and its light filtered in through the leaves of the wistaria vine covering one end of the big porch. The girl, leaning back against the pillows of a hammock, swung herself by the force of her patent leather shoes tapping on the floor.

"Anyhow," she said, with half seriousness, "it's a mighty safe rule to go by—never believe anything a man says. Then there won't be any mistake."

"The rule works the other way, also, doesn't it?" inquired the man in the green willow chair, flicking his cigar ashes over the railing.

"Certainly," declared the girl, with embarrassing promptness. "Only a demented man would think a girl really meant what she said."

"Doesn't it prove annoying frequently if the man isn't familiar with the rules of the game?" he asked.

"For him, yes," said the girl, sweetly. "But, you see, it helps. He knows next time."

"Sort of a philanthropic educational game you girls run, then, isn't it?" he asked, interestedly, tossing the cigar after the ashes and tipping back his chair.

"Oh, we don't exactly call it that," said the girl, depressingly. "And, you see we are having the compliment returned to us all the while."

"Our well known modesty," began the man, elaborately, "has always misled us into the idea that we could teach you nothing. But, of course, we may have been wrong all these years. Still, coming down from generalities, doesn't a girl—you, for instance—now, don't you ever have relapses—slight, of course—when you really can be taken at your word—when you mean what you say?"

The girl considered, still swinging. "Oh, there may be times," she admitted cautiously. "But I am not at all to be relied on. You never can tell, you see."

"That's a pity," said the man. "Because I'm an exception to your rule. There are a great many times when I say what I mean. These spells have been growing on me lately, too."

"Really?" asked the girl. "Do you know, I wish you'd come oftener—I'd like to study your case, so as to make a report on it to other girls. I never heard of anything like it before."

"I might give up my position," mused the man in answer to the first part of her remark. "That's the only way I could work in more time at your house besides every evening and Sunday afternoons, which is my limit now. But, then, how'd I make a living?"

"Do you suppose there are caterpillars in this wistaria vine?" broke in the girl nervously. "I just thought of it."

"Probably," said the man placidly. "If you'll let me sit there in the hammock I'll keep them off."

"Oh, I'm not a bit afraid really," said the girl, with inconsequent haste.

"Do you know," he asked, "if you feel an honest, truthful spell, one of those relapses we spoke of, coming on while I am here this evening I wish you'd tell me, because there was something I wanted to say, and its no use when you are in a normal state of mind."

"I'll remember," she said politely, "but I'm afraid there's no chance of one to-night. Why not make a note of it for some other time, for fear you forget it?"

"I have—on my cuff," he explained. "Then I've thought of another way. I might tell you what it was and you could have it handy in your mind to consider when a relapse hits you—for I might not be here, you know, and you said they were rare."

"You seem to be anxious about it," said the girl curiously, swinging a trifle faster. "But what's the use? Since I was eighteen I've made a practice of never remembering longer than five minutes anything a man said to me. So you see——"

"I told you I was an exception," he explained patiently. "You'd remember this, I'm sure. Because I've meant what I've said ever since I've known you."

The shadow of the wistaria vines flecked the girl's face as the hammock idly swung of its own accord.

"What I wanted to say," went on the man, with his fingers tightly clasped, "is, will you marry me? You know—you know I love you."

There was a silence, the golden silence of a perfect summer night. A cricket suddenly chirped among the vines.

"No," breathed the girl. "No, I cannot."

The man got up and stood like a soldier.

"Good night," he said, and started for the steps. She sprung up with a half-sobbing laugh. "But—but, you see, I don't mean what I say," she stammered.

The man returned in haste.—Chicago News.

To Mend Rubber Articles.

Procure about 5 cents worth each of rubber dam and red rubber. Cut a piece of the red rubber about 1½ inch square in tiny pieces. Put it into a small bottle, pour a teaspoonful of chloroform on it and cork it up tightly. In ten minutes it will be melted enough for use. If the hole to be mended is large, take a few stitches in it and cut a piece of the dam considerably larger than the hole. Wet the piece that is to be mended with chloroform, then, as rapidly as possible, put a thick layer of the melted rubber over as large a place as you have cut your dam. You can do this with a small stick. Wet your dam now with chloroform, and stick it on. If the hole is a very bad one, you can put on another piece of the dam and a little more melted rubber. The rubber in the bottle will be ready for use again simply by adding chloroform.

"Laugh, and the world laughs with you,
  Weep, and you weep alone;
For the sad old earth must borrow its mirth,
  It has troubles enough of its own.
Rejoice, and men will seek you,
  Grieve and they turn and go;
They want full measure of all your pleasure,
  But they do not need your woe."

The Editor's Chicken.

The editor of an English paper recently received a fine chicken, which he, supposing it to be a token of appreciation from a discriminating reader, took home and enjoyed for dinner. The following day he received this letter: "Dear Editor—Yesterday I sent you a chicken in order to settle a dispute which has arisen here. Can you tell us what the chicken died of?"

Changes in the Moon.

A man in Michigan by the name of Moon got married, and that was a change in the moon. In due ime his wife presented him with a daughter, and that was a new moon. Then he went to town and got drunk for joy, and that was a full moon. When he started for home he had 25 cents in his pocket, and that was the last quarter. His mother-in-law met him at the door

with a rolling pin, and that was a total eclipse, and he saw stars.—Granite (Colo.) Journal.

How to Keep Young.

It has often been said, and with a degree of truth, that there are no old women now. Women of to-day do not grow old like those of the past generations. The secret of their youth lies in the development of the mind and the body.

Clever women are zealously nourishing healthful thoughts and sound bodies. They have wakened to the realization of the power of mind over matter and are exercising it to the fullest extent of their forces.

The woman of forty reasons philosophically that she must absorb her strength of mind and body from her surroundings. Keeping in touch with present conditions, she continues to restore her youth and her beauty.

Such women often seem to grow younger.

Bright women of to-day break no law of nature. They are faithful servants of this great queen and their lives are ever subject to her orders. They neither live in the past nor in the future. They live the day, taking care not to overdo, but to let each day's work be in proportion to the strength allotted to them.

When nature bids them sleep, they enter dreamland. There is no order left, "Call me at 9 or 7." In this rest the elixir of youth supplies new vital and nervous forces.

Women who keep young are dreamers. They live largely in this land, knowing that this rest alone supplies the energies that the waking hours destroy. It is impossible for women to oversleep.

The woman who wakes with a headache often declares it is because she has overslept, when the pain is undoubtedly from other sources. Sleep is often prolonged trying to correct some law of nature that the subject has broken. Sleep is the agent of new life, which is only another name for the return of youth. In its stillness women thrive and improve.

Next in importance to absolute rest is the bath. Careful study in this particular is as essential as good food and pure air.

The nature of every woman is peculiar to itself. If she adopts the kind of bath that is strengthening to her nature, she thrives. Without it she withers. A walk in the rain with the feet protected will often refresh a woman as much as a good shower revives a flower.

Youthful women are no longer poisoning the skin with cosmetics, but are using wholesome skin foods that build up the tissues and beautify the complexion.

The milk diet is also doing a great work in clearing the complexions for women. Predigested foods are holding a front rank in supplying new strength and vigor. It is seldom that one sees a bilious woman now. Women have turned on the X-ray and each clear-minded woman is carefully studying herself.

They are no longer slaves to time. To a great extent they have outgrown its conditions. They do not say, "It's 12 o'clock and we must eat," but they ask, "Are you hungry? Does nature call for food?" Time was made for slaves.

The road to youth has been a long and trying one. It has been filled with stumbling blocks of ignorance that have wrecked lives and gathered many victims.

The numerous rules laid down by trainers in physical culture fifteen years ago required the strength of a giant and left no time for life's pleasures. To-day it has become a science. For example, women who wish to reduce the size of the hips or lighten their weight do so with ten minutes' exercise each day.

There are no set rules for the restoration of youth to women. Lives of women differ as radically as the coloring of the leaves in autumn; but the women who have the firmest grip on youth are those who are incapable of anger, who hold no malice and whose minds are filled with unselfish love. That love may be centered in a rose, a child, a man or an aged mother. They are the women who unconsciously receive into their daily lives the good that they send out to others.—N. Y. Mail.

Domestic Hints.

BAKED SQUASH.—Select a firm Hubbard squash, wash thoroughly, cut into sections orange fashion, and place in a pan and bake. If preferred, the squash may be parboiled and each section thickly sprinkled with maple sugar before placing in the oven to bake.

CURRIED PIGEONS.—Have half a cupful of onion chopped very finely and put into a saucepan with a teaspoonful of curry powder, a suspicion of ground ginger, half a teaspoonful of paprika and four ounces of butter. Cook till the onion browns a bit, then put in four pigeons cut in quarters, cook till they are brown, then add a cupful of stock, cover tightly and cook slowly till the pigeons are tender. Serve on a hot dish

FRESH VEGETABLE SALAD.—Boil two-pound can tomatoes, six sprigs of parsley, one slice of onion, six pepper-corns, eight cloves, blade of mace, for twenty minutes; strain and add, while hot, one tablespoonful of vinegar, one teaspoonful of celery salt, one tablespoonful gelatine; stir until gelatine is dissolved; set in a pan of ice water and stir slowly until it begins to thicken, then add one grated cucumber, three large boiled artichokes, cut into small cubes, turn into a border mould, set on ice to chill and become firm. When serving, unmould; arrange sliced tomatoes on outside and four tablespoonfuls mayonnaise, mixed with six tablespoonfuls of whipped cream in center.

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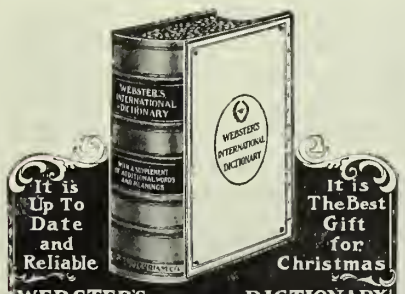
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The Markets.

San Francisco Produce Report.

San Francisco, December 14, 1904.

CHICAGO WHEAT FUTURES.

Wheat futures in Chicago were as follows for the week named, price being for No. 2 Red per bushel:

	May.	July.
Wednesday	$1 13 @1 10¾	$1 00 @ 98⅝
Thursday	1 09⅛@1 11⅜	98 @ 99⅝
Friday	1 10⅛@1 11⅝	98⅝@ 99⅜
Saturday	1 10⅝@1 10¾	98½@ 99
Monday	1 10¼@1 09⅛	98 @ 98⅝
Tuesday	1 10¼@1 08½	98¾@ 97⅝

CHICAGO CORN FUTURES.

Prices of futures on No. 2 corn per bushel in Chicago were as follows for the week:

	May.	July.
Wednesday	43⅛@42⅝	44⅛@44⅛
Thursday	44¼@44¾	44⅛@44⅞
Friday	44⅛@45	44⅞@45⅛
Saturday	45 @44⅝	45 @44⅝
Monday	44¼@44¾	44½@45
Tuesday	44¼@44⅞	45 @44½

SAN FRANCISCO WHEAT FUTURES.

The range of values in San Francisco for No. 1 White wheat per cental was as follows:

	Dec., 1904.	May, 1905.
Thursday	$ —@—	$1 43 @1 44
Friday	—@—	1 43½@1 43¼
Saturday	—@—	1 43½@1 44⅜
Monday	—@—	1 44⅜@1 43¾
Tuesday	—@—	1 43⅜@1 44
Wednesday	—@—	1 44⅞@1 44⅝

Wheat.

The local market for wheat continues very quiet, but with the light stocks in the State to draw upon, not much activity could be reasonably expected. On the 1st inst., according to the semi-annual statement of the Merchants Exchange, there were 197,000 tons wheat in the State, against 277,000 tons on Dec. 1, 1903, and 308,000 tons on Dec. 1, 1902. The amount reported on hand on 1st inst. is not enough for home consumption during the balance of the season, but as considerable wheat and flour is being steadily imported, and not much wheat going outward, there will likely be no special shortage, although prospects are unmistakably for very light reserves at the end of the season. Considerable wheat has been recently shipped from this State to Texas, one exporter having contracted to forward 100,000 sacks, being the equivalent of over 6,000 tons, or about two ship loads. In wheat charters there is nothing doing. One ship was listed to load wheat for Europe on owners' account. The engaged fleet is now small, numbering eight vessels, with a carrying capacity of 23,000 tons.

California Milling	$1 50	@1 60
Cal. No. 1 shipping, alongside	1 40	@1 42½
No. 1 Oregon Club	1 40	@1 50

PRICES OF FUTURES.

During past week the range on options was:
December, 1904, delivery, $1.40½@1.41½.
May, 1905, delivery, $1.43⅛@1.45.
Wednesday, at the forenoon session of Exchange, December, 1904, wheat sold at —@—; May, 1905, $1.43@1.44⅞.

Ocean freights and prices for wheat, as compared with a year ago, are as follows:

	1903-04.	1904-05.
Liv. quotations	-s-d@-s-d	-s-d@-s-d
Freight rates	10¼@11¼s	17@20s
Local market	$1 35@1 37½	$1 40 @1 45

STOCKS OF GRAIN IN STATE DEC. 1.

Stocks of cereals, etc., in the State on Dec. 1, 1904, and previous dates are given by the Merchants' Exchange as follows:

Dec. 1st.	1904.	1903.	1902.	1901.
Flour, bbls	128,146	147,718	166,413	140,737
Wheat, ctls	3,930,860	5,436,920	6,154,060	12,023,680
Barley, ctls	3,361,720	4,471,300	2,947,040	4,467,300
Oats, ctls	221,600	327,800	343,460	304,520
Rye, ctls	26,010	39,800	53,740	168,480
Beans, sks	557,589	659,908	752 874	476,874

LOCAL STOCKS OF GRAIN.

Stocks of grain in near-by warehouses on Dec. 1 and Nov. 1:

Tons.	Dec. 1.	Nov. 1.
Wheat	*47,086	55,655
Barley	†35,662	46,205
Oats	4,036	4,383
Corn	467	172

*Including 20,891 tons at Port Costa, 24,235 tons at Stockton.
†Including 21,384 tons at Port Costa, 10,357 tons at Stockton.

Stocks of wheat in near-by warehouses on the 1st inst. show a decrease of 8,569 tons for the month of November. A year ago there were 49,931 tons of wheat in near-by warehouses.

Flour.

Values are without quotable change, but for desirable qualities the market is modcrately firm at prevailing rates. Stocks are not large, either at this center or in the interior. According to the Merchants' Exchange statement, there were 128,146 barrels in the State on the 1st inst., being 19,572 barrels less than a year ago.

Superfine, lower grades	$3 25	@3 50
Superfine, good to choice	3 50	@3 75
Country grades, extras	4 25	@4 50
Choice and extra choice	4 50	@5 00
Fancy brands, jobbing	5 00	@5 25
Oregon, Bakers' extra	3 75	@4 25
Washington, Bakers' extra	3 75	@4 40

Barley.

Market has developed no appreciable changes in quotable values or general tone since date of last report. Free purchases would necessitate the payment of stiffer prices than are warranted as regular quotations, while on selling pressure, concessions from these figures would probably have to be granted buyers, especially on other than most desirable lots as to size and location as well as to quality. Stocks of barley in the State are given at 168,000 tons on 1st inst., as against 213,500 tons a year ago and 147,300 tons two years ago. Shipments for the season to date aggregate about 62,000 tons, and for corresponding time in 1903 were 153,400 tons, and in 1902 were 148,200 tons. The fleet now loading will probably take about 15,000 tons of this cereal.

Feed, No. 1 to choice	$1 12½	@1 15
Feed, fair to good	1 10	@1 12½
Brewing, No. 1 to choice	1 17½	@1 20
Chevalier, No. 1 to choice	1 20	@1 25
Chevalier, common to fair	1 05	@1 10

Oats.

Demand was fair for both feed and seed oats. Offerings of feed descriptions are not heavy, but are ample for the immediate demand at full current figures. Seed oats are in light supply and desirable qualities are commanding stiff prices. Stocks of all kinds of oats in entire State were reported at 11,080 tons on Dec. 1st, as against 16,390 tons on Dec. 1, 1903, and 17,173 tons on Dec. 1, 1902.

White oats, fancy feed	$1 45	@1 50
White, good to choice	1 40	@1 45
White, poor to fair	1 32½	@1 37½
Milling	1 40	@1 50
Black oats	1 30	@1 65
Red, fair to choice	1 25	@1 50

Corn.

Market is fairly supplied with Eastern of ordinary quality, and for this stock is not particularly firm, although in quotable values there are no special changes to record from the decline last noted. There is little California corn of any sort offering. For Small Yellow $1.75@1.80 is asked in a peddling way, but this figure could not be realized from dealers.

Large White, good to choice	$1 40	@1 45
Large Yellow	1 40	@1 45
Egyptian White	—	@—
Egyptian Brown	—	@—
Eastern, in bulk	1 32½	@1 37½

Rye.

Holders are firm in their views. Stocks in the State are reported at only 1,300 tons. A year ago there were 1,990 tons and two years ago 2,687 tons.

Good to choice	$1 42½	@1 47½

Buckwheat.

Local millers are fairly well stocked through recent purchases made in the interior.

Good to choice	$1 75	@2 00

Beans.

Business is not of heavy volume, and is largely in damaged beans, selling pressure being mainly on this sort. Wet beans are selling wholesale as low as $20 per ton and it is the exception where they command over $2 per cental. For thoroughly dry and in every way desirable beans the market is firm at the quotations. Stocks in this State are reported at 557,589 sacks, being 102,319 sacks less than last year at same date, and 195,285 sacks less than two years ago.

Pea, fair to good, 100 lbs	$2 90	@3 10
Small White, good to choice	3 15	@3 30
Large White	2 35	@2 60
Pinks	3 15	@3 35
Bayos, good to choice	2 50	@2 90
Red Kidneys	4 50	@5 00
Reds	4 00	@4 50
Limas, good to choice	4 10	@4 20
Black-eye Beans	2 50	@2 60

Dried Peas.

Choice are scarce and might command an advance on top quotations. The damp Peas which have been lately coming forward have been selling to fair advantage, quality considered.

Green Peas, California	1 50	@2 25
Garbanzos, Large	3 25	@3 50
Garbanzos, Small	3 00	@3 25
Niles	1 50	@2 25

Hops.

Little doing in this center, either for shipment or on local account. Advices from other points are a little conflicting, but in the main show dullness and an easier tone. A Tacoma, Wash., dispatch dated Dec. 10, says: "In reply to a cablegram from London, a local firm of hop dealers sends the followiug message: 'Market quiet but firm; we look for an advance next week. Prices in Tacoma are now 30@31c for the best.'" A Portland, Oregon, dispatch of above date says: "In marked contrast to the bullish reports of dealers in hops in Tacoma are the statements and acts of hop dealers in this city. One local dealer to-day sold at 26c several hundred bales of hops for which he paid 30c earlier in the season." The New York Producers' Price Current says: "The up-state market has continued very quiet this week, as there has been no demand whatever for export. Brewing grades have been sold in small quantities at 33@34c. and mediums in neighborhood of 31@32c. The growers are showing a little more anxiety owing to the present inactivity on the Pacific Coast. Concessions would have to be made to effect sales, but remaining stocks in growers' hands are light and they continue strong in their views, seeming to think that all their hops will be needed. We have reduced our quotations 1c. per lb. owing to the quiet market. Dealers report very little trade with brewers at the present time, as their immediate wants are pretty well covered. Locally there has been but little trading amongst dealers. Foreign markets are also quiet."

California, good to choice, 1904 crop	26	@30

Wool.

Quotations at present are largely nominal, in the absence of any noteworthy trading in this center. Foreign and Eastern markets are quiet, as they invariably are at the close of the year. There is a firm undertone to the market, however, and prospects are that good prices will be realized for all desirable wools of coming clip. Texas Fall wools of last clip have been selling at 18@20c. American buyers took some wools at the last London sales at the equivalent of 83c per 1b., scoured and laid down in this country.

SPRING.		
Northern, free	23	@—
Northern, defective	17	@21
Oregon, good to choice	20	@23
Nevada	16	@21
FALL.		
Northern	15	@19
San Joaquin and Southern, free	13	@16
San Joaquin and Southern, defective	9	@11
Southern lambs, as to quality	9	@14

Hay and Straw.

Market for hay has developed additional weakness, with offerings liberal, holders anxious to realize, and the demand slow. Prospects are not encouraging for any material change for the better during the balance of the season, although the low figures now current may stimulate the demand from outside points and reduce stocks more rapidly than has been the case for some weeks past.

Wheat, good to choice	$12 00	@ 13 50
Wheat and Oat	10 00	@ 12 50
Tame Oat, fair to choice	8 00	@ 12 00
Wild Oat	7 00	@ 9 50
Barley	9 00	@ 11 00
Alfalfa	9 00	@ 11 00
Clover	7 00	@ 8 50
Stock hay	6 00	@ 7 00
Compressed	11 00	@ 14 00
Straw, ₱ bale	40	@ 55

Millstuffs.

Bran and Middlings continue in fairly active request, and prices are being maintained at a little higher range than last quoted; supplies are of only moderate volume. Rolled Barley was not quoted higher, although market was firm in tone. Milled Corn inclined slightly in favor of buying interest.

Bran, ₱ ton	$19 00	@ 21 00
Middlings	25 00	@ 28 00
Shorts, Oregon	19 00	@ 22 00
Barley, Rolled	24 00	@ 24 50
Cornmeal	31 00	@ 31 50
Cracked Corn	31 50	@ 32 00
Oilcake Meal	31 50	@ 33 00

Seeds.

Alfalfa Seed offering is mainly Utah product, and as this is being urged to sale in increased quantity, the market is easier. Mustard Seed is in limited supply and is being steadily held.

Flax	$1 75	@ 2 25
Mustard, Yellow	3 50	@ 4 00
Mustard, Trieste	4 50	@ 5 00
		Per lb.
Alfalfa		12 @13
Canary		6½@ 6¾
Rape		1¾@ 2¼
Hemp		3½@—
Timothy		5 @ 5½

Honey.

The market is quiet. Stocks are not of large volume, either here or in the interior, but some of the principal holders are urging honey to sale, being desirous of effecting a clean-up at an early date.

Extracted, White Liquid	6	@ 6½
Extracted, Light Amber	4½	@ 5½
Extracted, Amber	3¾	@ 4¼
Extracted, Dark Amber	3	@ 3½
White Comb, 1-frames	11½	@12½
Amber Comb	9	@11

Beeswax.

Not much in store here. Desirable qualities are readily placed at prevailing rates.

Good to choice, light ₱ lb	29	@30
Dark	27	@28

Live Stock and Meats.

Prime to choice Beef is in good demand and market is firm at the quotations. Current values on desirable Veal are being well maintained. Mutton is in fairly active request, with offerings not excessive, and sales are mainly at full figures. Lamb is not arriving in great quantity, and choice is meeting with prompt custom and a firm market. Receipts of Hogs showed some increase, but there were no special accumulations, there being a fair demand, both for packing stock and for fresh pork.

Allowing for the shrinkage of about 50%, which is exacted in buying cattle on the hoof, live cattle command as much or more per pound than dressed beef, the shrinkage exacted being the slaughterers' profit.

The following quotations for beef and mutton are based on prices realized by slaughterers from wholesale dealers:

Beef, 1st quality, dressed, net ₱ lb	6½	@ 7
Beef, 2nd quality	5½	@ 6
Beef, 3rd quality	4½	@ 5
Mutton—ewes, 6½@7½c; wethers	7	@ 8
Hogs, hard grain, 140 to 250 lbs	5½	@ 5¼
Hogs, large, hard, over 250 pounds	4⅝	@ 4¾
Hogs, small, fat	4¾	@ 5
Veal, large, ₱ lb	6½	@ 8
Veal, small, ₱ lb	8	@ 9½
Lamb, spring, ₱ lb	8½	@ 9½

Hides, Skins and Tallow.

Hide market is firm at the advanced quotations, buyers taking hold freely. Pelts are commanding better average prices than for some time past. Tallow market is ruling steady, with a fairly active shipping demand.

Nothing but select hides, clean and trimmed will bring full figures. Culls of all kinds, either from grubs, cuts, hair slips, side brands or murrain, are not always readily placed at the lower figures.

	Sound.	Culls.
Heavy Steers, over 56 lbs	— @11	— @10
Medium Steers, 48 to 56 lbs	— @10	— @ 9
Light Steers, under 48 lbs	9½@10	8½@ 9
Heavy Cow Hides, over 50 lbs	— @10	— @ 9
Light Cow Hides, under 50 lbs	9½@10	8½@ 9
Stags	7 @ 7½	6 @ 6½
Wet Salted Kip	— @10½	— @ 9½
Wet Salted Veal	11 @11½	10 @10½
Wet Salted Calf	11½@12½	10½@11½
Dry Hides	17½@18	16½@17
Dry Kip and Veal, 11 to 16 lbs	— @15	— @13
Dry Calf, under 4 lbs	— @20	— @18
Pelts, long wool, ₱ skin	1 25@1 75	
Pelts, medium, ₱ skin	90@1 10	
Pelts, short wool, ₱ skin	50@ 75	
Pelts, shearling, ₱ skin	15@ 40	
Horse Hides, salted, large prime, each	3 00@—	
Horse Hides, salted, medium	2 50@—	
Horse Hides, salted, small	2 00@—	
Horse Hides, dry, large	1 75@—	
Horse Hides, dry, medium	1 50@—	
Horse Hides, dry, small	1 00@—	
Tallow, good quality	4 @4½	
Tallow, poorer grades	2½@3½	

Bags and Bagging.

The same inactivity previously noted is prevailing in this department. Asking prices are without appreciable change.

Bean Bags	$ 4¼	@5
Fruit Sacks, cotton	6½	@7½
Fruit Sacks, jute, as to quality	5¾	@7
Grain Bags, Calcutta, 22x36, spot	5½	@5⅝
Grain Bags, Calcutta, buyer June-July	6	@6½
Wool Sacks, 4-lb	32	@—
Wool Sacks, 3½ lb	30	@—

Poultry.

Market has been heavily stocked with Chickens most of the week, principally Eastern, and values were in consequence at a rather low range. California Broilers had been selling well, but these were also in increased receipt and prices receded. Market for Ducks was slightly easier. Prices for Geese remained about as last quoted. Turkeys arrived sparingly and good to choice sold at a moderate advance. Market for Pigeons was moderately firm at the quoted range.

Turkeys, Dressed, choice, ₱ lb	$ 20	@ 23
Turkeys, live gobblers, ₱ lb	18	@ 20
Turkeys, live hens ₱ lb	18	@ 20
Hens, California, ₱ dozen	4 00	@ 4 50
Hens, large	5 00	@ 5 50
Roosters, old	4 00	@ 4 50
Roosters, young (full-grown)	5 00	@ 6 00
Fryers	4 00	@ 4 50
Broilers, large	3 00	@ 4 00
Broilers, small to medium	2 50	@ 3 50
Ducks, old, ₱ dozen	5 00	@ 6 00
Ducks, large young, ₱ dozen	5 50	@ 6 50
Geese, ₱ pair	2 00	@ 2 25
Goslings, ₱ pair	2 25	@ 2 50
Pigeons, old, ₱ dozen	1 25	@ —
Pigeons, young	2 00	@ 2 50

Butter.

Prices for fresh have been advanced 2c @3c per lb. since last review, there being considerable shipping demand and not very heavy receipts. Eastern markets were firm and higher. There are still heavy quantities of butter in cold storage, and prices for the same are without appreciable improvement.

Creamery, extras, ₱ lb	23	@24
Creamery, firsts	21	@22
Creamery, seconds	19	@20
Dairy, select	20	@—
Dairy, firsts	18	@19
Dairy, seconds	16	@17
Mixed Store	11	@12

Cheese.

Stocks of domestic product are not heavy of either flats or small sizes, but increased receipts are looked for soon. Buyers are not operating ahead to any noteworthy extent, anticipating an easier market.

California, fancy flat, new	11½	@12
California, good to choice	10	@11
California, fair to good	9½	@10
California, "Young Americas"	10	@12½
Eastern	12	@15

Eggs.

With only moderate arrivals of fresh eggs and a fairly active demand, the market has ruled tolerably firm for choice to select, a few favorite marks selling to special custom at an advance on quotations. There is no scarcity of cold storage eggs, either domestic or Eastern. Several carloads of Eastern arrived the current week.

California, select, large, white and fresh	40	@—
California, select, irregular color & size	32½	@37½
California, good to choice store	27	@30
Eastern firsts	23	@27
Eastern seconds	19	@21

Vegetables.

Fresh vegetables are arriving in considerable quantity for this time of year, mainly from the southern section. Desirable qualities were in request and brought comparatively good prices. Onions sold at an advance; some arrived from Oregon, representing previous purchases by dealers.

Beans, Lima, ₱ lb	5	@	7
Beans, String, ₱ lb	4	@	6
Beans, Wax, ₱ lb	5	@	7
Cabbage, choice garden, ₱ 100 lbs	60	@	70
Egg Plant, Los Angeles, ₱ lb	5	@	8
Garlic, ₱ lb	4½	@	5
Mushrooms, ₱ lb	12½	@	20
Onions, Yellow Danver, ₱ ctl	2 20	@	2 65
Peas, Green, Los Angeles, ₱ lb	3	@	6
Peppers, Green, ₱ box	40	@	60
Rhubarb, ₱ box	50	@	1 00
Summer Squash, Los Ang., small bx	75	@	1 00
Tomatoes, box	75	@	1 00

NOTE.—Large boxes are what are known to the trade as "pay boxes," which have to be returned or paid for. They are open top, with hand holes in the ends, and weigh when filled from 50@60 lbs gross. Small boxes are free boxes, about the same as the regular fruit box, weighing when full from 20 to 30 lbs. gross.

Potatoes.

There was a firmer market for Burbanks, more particularly for the best qualities. Dealers in some instances were reported paying higher prices in the interior for River Burbanks than were current here. Oregon Burbanks were in moderate receipt. Sweets were in ample supply for the demand.

Early Rose, ₱ cental	1 10	@	1 20
Salinas Burbanks, ₱ cental	90	@	1 40
River Burbanks, ₱ cental	40	@	75
River Reds, ₱ cental	65	@	75
Oregon Burbanks, ₱ cental	1 00	@	1 25
Sweet Potatoes, ₱ cental	65	@	85

Fresh Fruits.

Apples were in lighter receipt, causing the market to present a better tone, but in the matter of quotable values there was no special improvement to record. Demand most of the week was of a rather slow order, and was mainly for the best, which were sufficiently reasonable in price, even for consumers not particularly flush with coin. Lady Apples were quoted at a wide range, the inquiry for same not being active and mostly for strictly fancy stock. Only such as were about perfect, highly colored, bright and waxy, were readily placed or met with a firm market. Persimmons were in fair supply and light request at much the same prices as were current the previous week. Grapes did not make a very good display, but about as well as could be expected for this late date. Cornichons and Verdels were in best condition and brought the best figures. There were few Berries received and they were mostly of common quality, choice being in such light supply as not to be quotable in a regular way.

Apples, fancy, ₱ 50-box	1 25	@	——
Apples, good to choice, 50-lb. bx	75	@	1 00
Apples, fair to good, ₱ box	50	@	75
Apples, Lady, ₱ box	1 25	@	2 25
Persimmons, ₱ regular box	40	@	75
Strawberries, Longworth, ₱ chest	8 00	@	10 00
Strawberries, large, ₱ chest	3 50	@	7 00

Dried Fruits.

The market for cured and evaporated fruits is not showing much life, and it would be phenomenal to have it otherwise at this time of year, more particularly at the present date, as stocks of most kinds are of too light volume to admit of any great activity. If supplies were heavy and holders were anxious to realize, the market would undoubtedly show weakness, in consequence of dealers being invariably slow to stock up at the close of the year. Supplies of nearly all kinds, however, are down to small compass, and prospects for a general clean-up before the close of the season are more favorable than for many years past. Market for Apples shows weakness, not in consequence of local conditions, but owing to low prices East. Apricots are in light supply and are being firmly held. Peaches are in decidedly limited stock and in few hands Pears of common quality are not receiving much attention, and of any other sort there are very few offering. Plums and Nectarines are in such limited supply as to be hardly quotable. Prunes now remaining are mostly medium sizes, and for these the market is not particularly firm. The steamer Queen, sailing the past week for British Columbia, carried 42,129 pounds dried fruit, mainly for Winnipeg. The steamer City of Puebla for British Columbia took 72,000 pounds. The steamer Curacao carried 9300 pounds for Mexico.

EVAPORATED OR BLEACHED.

Apples, 50-lb boxes, rings, pressed, good to choice	4	@	4½
Apples, extra choice to fancy, 50-lb boxes	5½	@	6
Apricots, Moorpark	9	@	11½
Apricots, Royal, good to choice, ₱ lb	7½	@	8½
Apricots, Royal, fancy	9	@	10
Figs, 10-lb box, 1-lb cartons	55	@	60
Peaches, unpeeled, good to choice	7¼	@	7¾
Peaches, unpeeled, fancy to extra fancy	8	@	9
Pears, standard, ₱ lb	6½	@	7
Pears, choice to fancy	8	@	10½
Plums, Black, pitted	5½	@	6½
Plums, Red, pitted	7	@	8½
Plums, Yellow, pitted	6½	@	7½
Prunes, Silver, good to fancy	4	@	7½

Prunes, in bags, 4 sizes, 1½@1¾c; 40-50s, 3¾@4c; 50-60s, 2½@2¾c; 60-70s, 1¾@2c; 70-80s, 1½@1¾c; 80-90s, 1¼@1½c; 90-100s, 1@1¼c; small, ⅞@1c.

COMMON SUN-DRIED.

Apples, sliced	3½	@	4½
Apples, quartered	3½	@	4½
Figs, White, in bulk	2	@	2½
Figs, Black	2½	@	4

Raisins.

Market presents a firm tone, with prospects good for all stocks being consumed before next season opens. Included in the shipments of the week were 17,600 lbs. by steamer to British Columbia.

CROP OF 1904.

(Fresno delivery except otherwise specified,)

London Layers, 2 crown, 20-lb box	85	@	——
London Layers, 3-crown, 20-lb box	90	@	——
Fancy Clusters, 4-crown, 20-lb box	——	@	1 35
Dehesas, 20-lb box	——	@	1 85
Imperials, 20-lb box	2 25	@	2 35

2-Crown Standard loose Muscatel	3¼	@	3½c
3-Crown Standard	3¾	@	4 c
4-Crown Standard	4¾	@	—c
Seedless Thompsons	—	@	4¼c
Seedless Sultanas	—	@	3 c
Fancy, 16-oz. Seeded			6 c
Choice, 16-oz. Seeded			5 c
Fancy, 12-oz. Seeded			4¾c
Choice, 12-oz. Seeded			4 c
Bleached Sultanas, Woodland Dist., 50s	4¼	@	4¾c
Bleached Thompsons, Woodland Dist., 50s	4½	@	8½c

Citrus Fruits.

Oranges were in liberal supply, but it was the exception where they were sufficiently ripe to be desirable for immediate use. Only for well colored and sweet Oranges did the market display any firmness. Stocks of Lemons were of fair volume, with demand only moderate, and prices were quotably lower. Market for Limes was quiet and favorable to buyers.

Oranges, Navels, ₱ box	1 00	@	2 00
Oranges, Seedlings, ₱ box	75	@	1 00
Oranges, Cal. Tangerines, half box	75	@	1 00
Lemons, California, select, ₱ box	2 50	@	——
Lemons, California, good to choice	1 75	@	2 25
Lemons, California, fair to good	1 25	@	1 75
Grape Fruit, ₱ box	1 50	@	2 50
Limes, Mexican, ₱ box	3 75	@	4 25

Nuts.

Business in Almonds was mostly of a light jobbing character. Stocks of desirable qualities, however, are too light to admit of much wholesale trading. Present offerings are largely Non Pareils and Drake's Seedlings. Walnuts now in stock are principally No. 2s, and for these the market is not showing any special firmness. In the New York market European Walnuts are in good supply, Naples being quoted at 12¼c., and Grenoble at 11½c.

Chestnuts, Cal., ₱ lb	7	@	9
Nonpareil Almonds	14	@	17
Ne Plus Ultra Almonds	12	@	14
Languedoc Almonds	9	@	11
Peanuts, fair to prime	5½	@	6¼
Cal. Walnuts, No. 1 soft shell	12	@	13
Cal. Walnuts, No. 2 soft shell	10	@	11
Cal. Walnuts, No. 1 hard shell	10	@	11
Cal. Walnuts, No. 2 hard shell	8	@	9

Wine.

Most of this year's dry wines are said to be now out of first hands, especially the desirable lots. Some of only ordinary quality will probably have to go at rather low figures. The quotable wholesale range is 14@17c., with market firm for best stock. Choice are cheaper at 17c. than ordinary at 14c. Sweet wines are in good supply. Prices for this year's sweet wines have not yet been announced. Receipts of wine at San Francisco last week were 428,340 gallons, and for preceding week were 384,075 gallons. The steamer City of Sydney, sailing on 10th inst., carried 95,932 gallons wine, including 92,158 gallons for New York.

QUEER CATTLE MALADY.—Jamestown Gazette: A disease known as black tongue has appeared in the western section of the county and a large number of cattle are affected. Their tongues turn black and swell to such proportions that they cannot close their mouths. It is believed there that the trouble comes from eating rank grass that is found on the ranges in this season of unusual development. Dr. Eddy, a veterinary surgeon, when questioned about the matter, said that no such malady existed as an established disease, but that the conditions were probably caused by local circumstances.

LARGE OLIVES.—Modesto News: W. M. Snedigar, a prominent rancher living about 9 miles from Modesto, on the Oakdale road, was in town Saturday with a sample of the kind of olives he grows on his place, and the jar of pickled olives attracted no little attention, as the olives are the largest ever seen in Modesto, being as big as the average plum. Mr. Snedigar has a number of trees of these olives, and he says the fruit is always very large and is a fine Queen, pickling olive. The sample jar is now displayed in the board of trade rooms. Mr. Snedigar was unable to get the olives in a regular queen olive bottle.

BROOMCORN SEED FOR TURKEYS.—Journal: Livingston & Swank of Colusa are shipping 783 sacks of broomcorn seed to Peter Peterson at Sites, to be used by him as turkey feed. This makes 1800 bags of 100 pounds each this firm has thus far forwarded to Mr. Peterson. It is said to be the best feed for turkeys extant.

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Produce Receipts.

Receipts and exports of leading cereals and other California products for the past week and for the season to date, as compared with the corresponding time the previous year, are as follows:

FOR THE WEEK.		Since July 1, 1904.	Same time last year.
Flour, ¼ sks	138,977	2,333,352	2,784,962
Wheat, ctls	143,594	1,610,493	1,016,700
Barley, ctls	216,886	2,062,960	3,820,707
Oats, ctls	11,673	577,037	619,046
Corn, ctls	7,131	98,462	73,499
Rye, ctls	395	30,369	32,728
Beans, sks	20,131	394,821	491,432
Potatoes, sks	26,340	596,750	632,325
Onions, sks	1,802	69,865	91,087
Hay, tons	4,207	97,429	98,333
Wool, bales	682	38,317	31,828
Hops, bales	464	28,198	23,095

EXPORTS BY SEA.

FOR THE WEEK.		Since July 1, 1904.	Same time last year.
Flour, ¼ sk	55,564	1,781,960	1,885,096
Wheat, ctls	76,098	515,748	399,394
Barley, ctls	10,810	1,220,293	3,068,325
Oats, ctls	323	15,946	12,752
Corn, ctls	9,655	54,879	9,199
Beans, sks	1,306	36,054	20,209
Hay, bales	3,878	71,919	84,116
Wool, lbs		809,532	1,614,268
Hops, lbs	22,940	217,552	430,298
Honey, cases	230	1,398	3,637
Potatoes, pkgs	2,824	46,754	43,967

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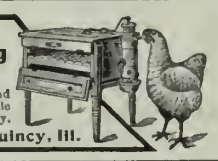
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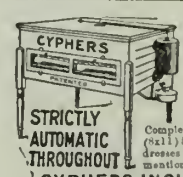
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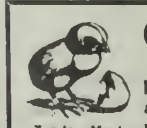
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The Inevitable Parcels Post.

To the Editor:—Seeing the National Grange is working heartily for a parcels post, it is but natural that all the farming community await anxiously any step forward to the attaining so desirable an end.

On the promotion of Hon. R. J. Wynne to the position of Postmaster-General the Postal Progress League of California addressed him a letter of congratulation and inquiry.

The inquiry was chiefly as to the reason why the American Postoffice charged American citizens on parcels of merchandise sent through the mails 64 cents for four pounds, while, for practically the same service the American express companies carried for the British Postoffice at a rate of 24 cents for eleven pounds. The League letter was referred to Second Assistant Postmaster-General Shallenberger for reply. His response, too long for your columns, covering nearly six sheets of type-written matter, revamped an old attempt to befog the question by importing extraneous issues; but, at the same time, contained two very important admissions. What these admissions were can be easily gathered from the League's reply to Mr. Wynne, the Shallenberger letter having been addressed to him. Thinking your readers will find it interesting, I append a copy of reply. Edward Berwick.
Pacific Grove.

The following paragraphs are taken from Mr. Berwick's letter which he mentions above:

I gladly concur in Second Assistant Postmaster-General Shallenberger's statement that your department "in extending facilities for the interchange of parcels of light weight which can be easily handled in connection with domestic mails, is performing a service which cannot so readily be performed by private carrying companies, inasmuch as there are more than 70,000 postoffices which can be reached by Government transportation, while there are only about 30,000 offices which can be directly reached through the agency of various express companies."

The admission contained in the following sentence is also satisfactory. Speaking of the "flat rate" charged the British Postoffice for the transmission of 11-pound packages between New York and any other express office in the United States (which the British postal guide says is 1 shilling, or 24 cents, but which the Second Postmaster-General asserts is about 50 cents), he says: "No doubt the flat rate received by the American express companies for all parcels is fully remunerative on the basis of their domestic rates, and there is every reason to believe that the company would be willing to conclude a similar arrangement with any large shipper in this country who might desire a uniform rate for a given weight of packages regardless of distance."

Supposing, for the sake of argument, we take the gentleman's own figures and say that for 50 cents 11-pound packages can be carried at a flat rate all over the Union on a "fully remunerative" basis by the express companies; is it not perfectly legitimate to infer that such a basis ought to be "fully remunerative" to the Postoffice Department? If not, why not? And if a 50-cent postage stamp rate "fully" remunerates the express companies on parcels of eleven pounds why does the postoffice make citizens pay 64 cents for four pounds?

But I do not for one moment admit that Mr. Shallenberger is justified in mixing up what the British postoffice specially calls the "non-postal" charge (of 2 shillings on all parcels) with the transportation dues. The difference between 11-pound packages delivered in New York or delivered in California is simply 24 cents, and to the unsophisticated mind that seems to be the sum paid for the extra distance covered. It is difficult to see from the official point of view, and see double, that 24 cents is 48 cents.

The National Grange.

At the recent meeting in Portland some general facts about the Order were brought out, as noted in an outline in the Orange Judd Farmer. Treas-

urer Mrs. E. S. McDowell of Rome, N. Y., reported receipts for the year to be $52,716.85; expenses, $19,513.10, leaving a balance on hand of $33,203.75. The rollcall of States showed the Grange to be in a flourishing condition everywhere. New Hampshire reported 266 subordinate and 19 Pomona Granges and a Grange fire insurance organization having more than $7,000,000 in policies. More than 100 members of the Order have just been elected to serve in the New Hampshire Legislature, and a Grange school law will probably be enacted this winter. Connecticut reported 121 Granges and a healthy membership. Minnesota reported gains during the year. Ohio has organized twenty-five new Granges and a traveling library is a Grange feature in that State. Pennsylvania reported 7000 new members this year and a Grange life insurance is becoming a feature of the Order. South Carolina reported the Order in a flourishing condition.

In Wisconsin the Grange has forged ahead. Maine makes a banner report, with 24 Pomona Granges and 374 subordinate Granges. It has organized twenty-eight subordinate Granges the past ycar. The total membership in Maine is 47,772; thirteen new Grange halls were dedicated the past year, and the cost, on the average, was $3700, although one cost $14,500. One Grange has a membership of 784, with a possibility of making it 850 before the end of the year.

Overseer T. C. Atkeson of West Virginia offered a resolution on peace and arbitration, indorsing the work of the American Peace Society and other similar societies.

By invitation, November 22, the delegates took a special train for Corvallis, where they visited the State Agricultural College.

The report of the Finance Committee, which was unanimously adopted by the National Grange, consisted chiefly in providing salaries for the officers of the national body. The Worthy Master's compensation was fixed at $500 a year, $3 a day and expenses while away from his office; the Worthy Lecturer $400 and the same per diem and traveling expenses; the Worthy Treasurer $400 and expenses; the High Priest and members of the Executive Committee $3 a day and expenses, while engaged in Grange work. About $7000 was set apart as a lecture and extension fund, to be expended by the Executive Committee.

The Executive Committee expressed the opinion that the powers now conferred upon the Interstate Commerce Commission are not ample enough, and the legislation necessary to enlarge its powers was recommended. The report indorsed the parcels post and condemned the effort being made to repeal the oleo law. The committee also recommended that the Grange adopt resolutions favoring direct election of United States Senators. The report closed by reindorsing Congressman Currier's bill providing for Federal aid in building roads, now before Congress, and emphatically denounced the trusts and urged the enforcement of present laws and the enactment of new ones.

THE WORLD'S CHAMPION DAIRY BUTTER MAKER

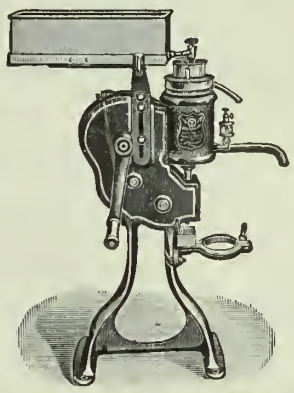
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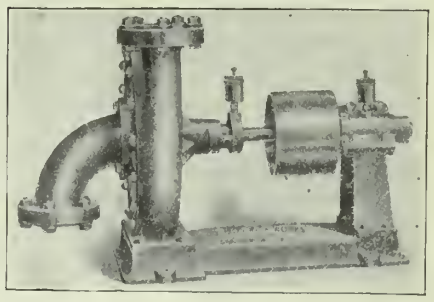
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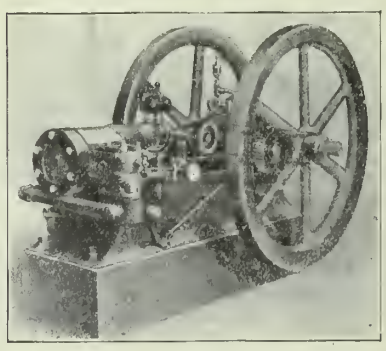
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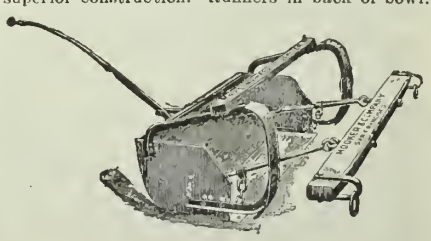


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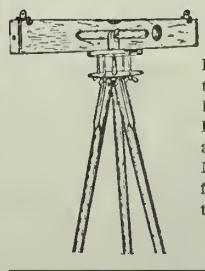
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Pear Blight in Northern California.

(Continued from page 390.)

spraying before further infection can take place. Why, then, if the germ of pear blight is accessible to the honey bee, is it so certain that a proper spray at the proper time might not reach and destroy the same source of infection? This is but one suggestion as to the outlook for better methods of blight control. Too little effort has been made in this direction. That the disease is a very destructive one, or that it is bacterial and develops internally, does not preclude its successful control by some practical method, or justify the abandonment of a valuable industry without more of an effort than has yet been put forth in California to solve this problem.

Investigation Needed.—The investigation of plant diseases is the work of the specialist in that study, with the assistance and co-operation of growers and practical men. Too little attention has been paid to this subject in California, where of all States it is of most importance. When one considers a State like Connecticut, smaller than many of our single counties, with two Experiment Stations; or a region like New England, of little agricultural importance and an area not more than half that of our State, with seven Experiment Stations; while in California no provision whatever has been made by the State for experimental investigation of plant diseases other than those caused by insects, is it to be wondered at that in regard to pear blight, walnut blight, vine diseases, root knot, root rot, citrus troubles, apple diseases, grain smuts, and a host of their kind, we are still largely in the dark?

In the case of the pear blight a chorough investigation, under State tontrol, appears to me to be most urgent. The industry is one of great importance to the whole State, and concerns more or less directly a large share of its population. The Bartlett pear is our most valuable deciduous fruit, and the Sacramento valley its greatest seat of production. What hurts this business hurts California. The blight may not prove as destructive here as in the San Joaquin, but the danger is too near and too real to be made light of. Better too much than too little, or too late, in such a matter.

To investigate this matter effectively and thoroughly with regard to all parts of the region concerned will require assistants for carrying out field and laboratory work, giving their chief attention to this alone, necessary equipment, appliances and materials, and provision for the various considerable expenses attached to such work if it is carried on vigorously and on a scale proportionate to the importance of the problem. A department of plant diseases having been recently created at the State University by the enterprise of the asparagus growers, the work of which is particularly along this line, the only obstacle to proceeding with the pear blight investigation is the matter of financial support. Suggestions have been made that this be afforded either by the growers themselves, the several counties most concerned, or by the State. The last proposition seems most feasible. To collect a subscription or assessment from various growers would limit the work by personal considerations not desirable in such a case. To depend upon the action of various county officials would also prevent a uniform effort and application of results. In the Legislature support should come from every pear-growing section for such a proposition as this, and work could be carried on with State support wherever most desirable or necessary without regard to personal or single county interests. With such an investigation supported by the State, work could also be done incidentally on many other similar troubles occurring in the same localities and a department of plant disease investigation worthy of the name permanently established.

THE FIELD.

Winter Killing of Ground Squirrels.

"I wish some one would tell me how to get rid of squirrels," said one foothill farmer to another within the hearing of a San Jose Herald representative recently.

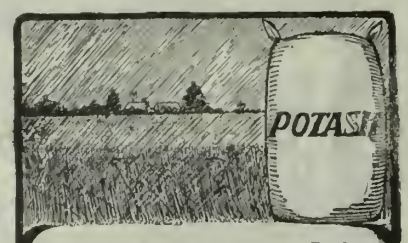
"I can do it," said the one addressed. "I know what I am talking about, for I have rid my own place of the pests and most of my neighbors have done the same thing. Three years ago I bought twenty acres of land in the foothills near Mountain View. It was lying wild, uncultivated and unfenced and the land was literally riddled with squirrel holes. I wanted to plant the land to orchard, but was afraid to do so because of the multitude of squirrels which I feared would consume the young trees, so instead I sowed grain for hay. I then started in to fight the squirrels in the old-fashioned way, with phosphorus, strychnine, cyanide of potassium and other poisons. By April 1st the rodents had eaten out patches of the equal in the aggregate to about 20% of the area of the entire field. About this time I observed a neighbor using bisulphide of carbon fumes, which he forced into the squirrel holes by means of a galvanized cylinder, with bellows attached. I procured a similar outfit, followed his advice and killed off 95% of the squirrels the first time I went over the land. I have repeated the application occasionally since both on my own land and vacant fields adjoining me and have kept the little pests in entire subjection, at small cost, from that day to this.

"I planted my place in apricots a year ago and no injury worth the mention has been done to a single tree. I have not used the carbon pump since last August, and there is not to-day a single squirrel or squirrel hole in my orchard.

"There are a few squirrels in neighboring pasture fields and these I shall kill off in the spring for my own protection, but I do not expect that it will require more than a day or two's time or more than a couple of gallons of carbon.

"The best time to apply the carbon is when the ground is wet, though it can be done quite successfully in the summer if the earth is not cracked open so as to allow the fumes to escape. The method of applying is to extend the hose attached to the pump into the hole as far as it will reach, then tamp fine dirt into the mouth of the hole, give about sixty strokes on the bellows to force in a sufficiency of the fumes, withdraw the hose and retamp the holes. If this process is faithfully carried out 95% of the holes will not be reopened, unless by other squirrels coming from the outside. Some persons who have experimented with this remedy have failed to use sufficient carbon, and have therefore not met with as satisfactory results as I have related, but where the carbon is properly applied it is a dead-sure shot."

Calf Costs Shasta County $2000.—Redding special to Sacramento Bee: The locally famous heifer calf case came to a close at 5 o'clock Sunday morning, when the jury, which had the case in its hands since 10 o'clock Saturday night, returned a verdict of guilty against Clarence Turner, the defendant, who had been accused of stealing the heifer calf in question from Thomas B. Armstrong, at Shingletown, on May 8th last. The case occupied the attention of the superior court all week, and has been an expensive one. Forty-four witnesses were in attendance all week, and none of them came a less distance than 40 miles, and there were character witnesses from Sacramento, Santa Rosa and San Francisco. County Clerk Blodgett estimates that the cost will figure up at least $2000.



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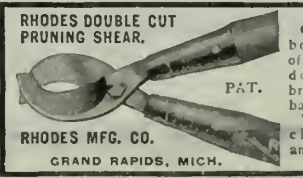
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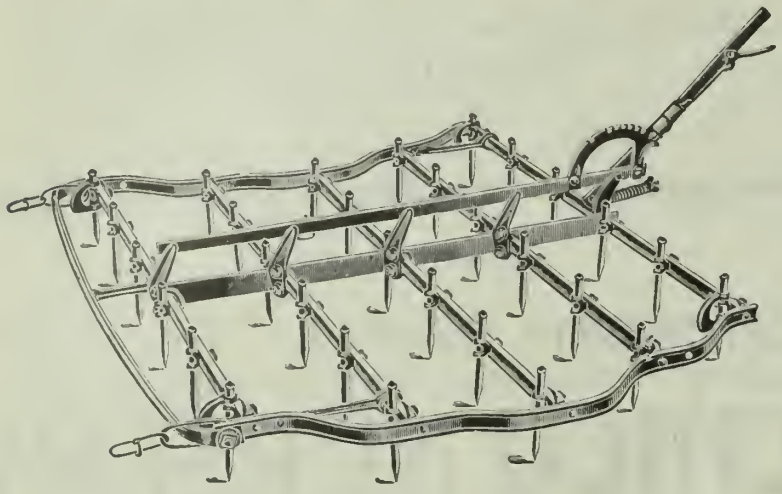
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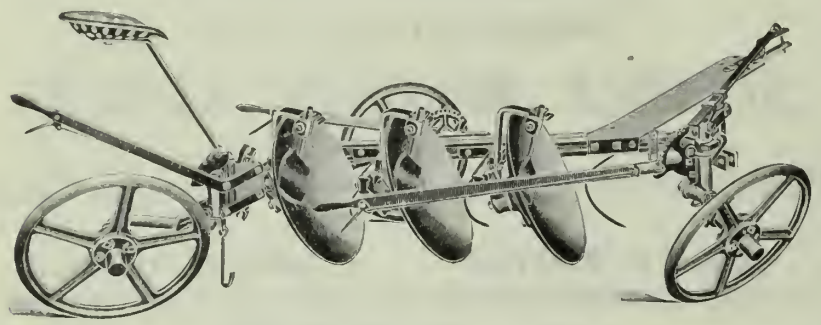
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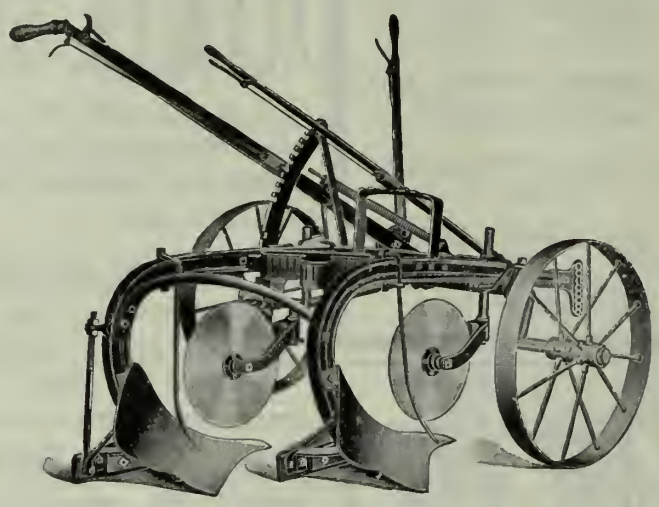
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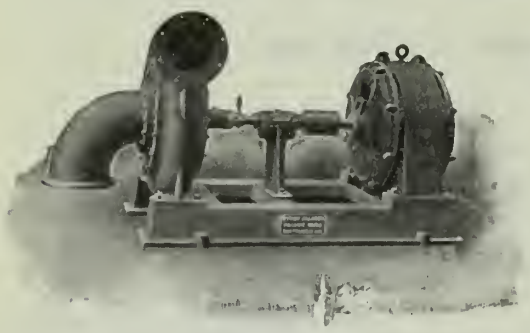
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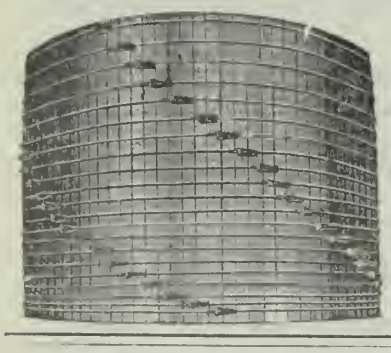
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AND CALIFORNIA FRUIT BULLETIN.

Vol. LXVIII. No. 26. SAN FRANCISCO, SATURDAY, DECEMBER 24, 1904. THIRTY-FOURTH YEAR. Office, 330 Market St.

A Good View of California Boulders.

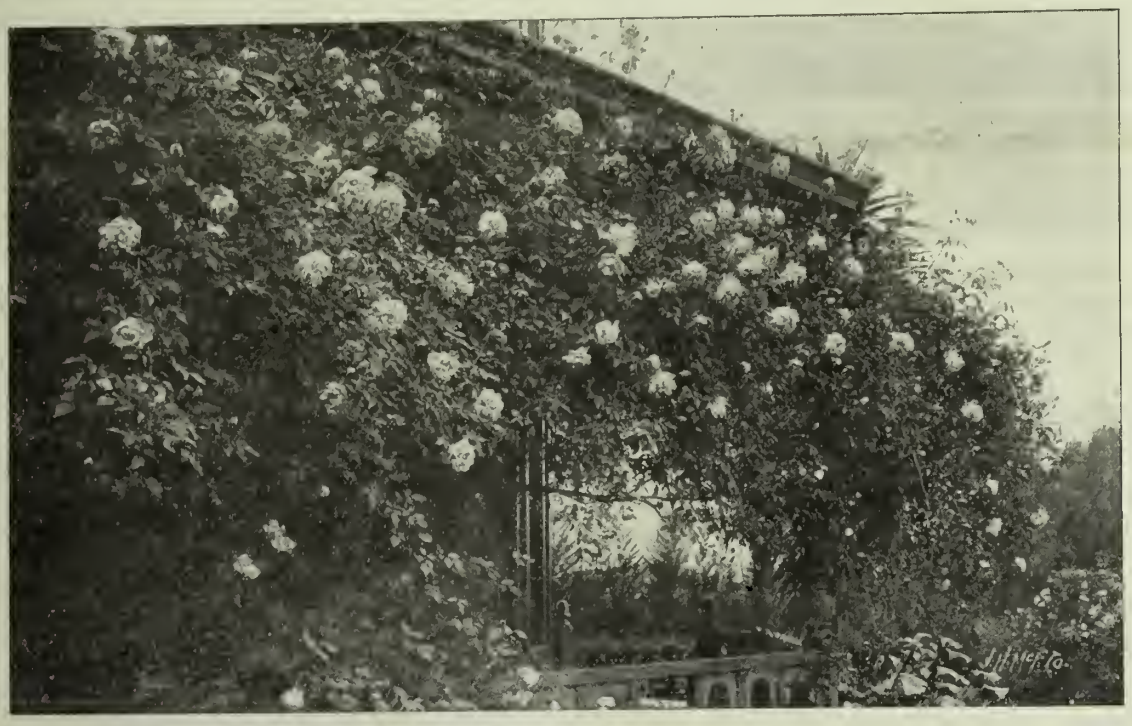
California has boulders just as she has other good things, in characteristic richness and profusion. Fortunately, too, she usually has them collected in great quantities in places where they can do least harm, viz., in the beds of torrential mountain streams or on the slopes of the foothills. Over the great valley plains, where the chief part of our agricultural lands lie, one can travel for days together and never see a boulder nor even its poor little relative—the cobblestone. In this respect, California is very different from the Atlantic States, where boulders seem to have been dropped with great care, so that every man can have some on his farm, and what it has cost those who do not like boulders to blast them to pieces or to bury them below the reach of the plow, is too great to write about. But when California does have boulders she has them in good shape, like the boy who had the mumps and was proud of them. The picture on this page shows a case of this kind, but the boulders are rather small, on the whole, for exhibition purposes. There are some interesting relations of the boulders to the rocks below which are interesting to note. In some regions the granite below is too soft and too much decayed to be made available as building stone, and yet the region is strewn with boulders of granite which are worked up into fine structural material. In the region about Prescott, Ariz., granite boulders from 3 or 4 feet to those 20 feet or more in diameter are strewn over the surface of the rotten bedrock



Granite Boulders on a California Hilltop.

granite. These have been extensively worked up and employed in the construction of buildings, and there are many instances of this kind in the granite regions of the West.

The peculiar weathering of massive rocks is well illustrated in the engraving. It is known as "concentric decomposition" or "spheroidal weathering" of massive rocks. It also occurs to some extent in sandstones. In the case of granite these boulders strewn on the surface are identical with the underlying bedrock, of which they originally formed a part, but for some reason the meteoric agencies have been unable to affect them in the same manner as the main mass of the rock. Often these hard unaltered granite boulders are found lying on a bedrock of decomposed granite in which a shaft may be sunk with pick and shovel to a depth of 50 or 60 feet. Some of the best fruit soils of our foothills are made by this decomposition of granite; and, fortunately, it is rather rare to find such an aggregation of boulders as the picture shows.



Marechal Niel, the Grandest of the Tea Roses.



How the Lamarque Adorns a Cottage Home in California.

Two Grand Climbing Roses in California.

The adjacent engravings show what two of the world's most famous climbing roses do in California. They are from pictures secured by the Chase Rose Co. of Riverside to demonstrate their claim of the desirability of roses growing on their own roots when they have California conditions to make their start with.

The Lamarque rose is a good grower under almost all California conditions and can be relied upon to cover a habitation with a bower of healthy foliage and snowy bloom in all parts of the State. It is freely used for such adornment, also for high screens, hedges and the like, and when the plant escapes to an adjacent tree it will surmount and cover it in an amazingly short time. From the fogs of the coast, across the heat of the valleys and into the wintry conditions of the mountains, it shows strong growth and magnificent bloom without much question as to its surroundings and treatment.

On the other hand, the Marechal Niel, which is perhaps our grandest rose in size, beauty and fragrance, is a little more particular as to its environment. It does not like the cool summer of the immediate coast in the central and northern parts of the State, and too free exposure to the summer winds and fogs depresses its growth and locks its buds from full opening. But in the warmer valleys, even near the coast, if protected by intervening mountains from the ocean influences, and in the warmer parts of the State generally, it displays its satisfaction, as the engraving shows.

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SAN FRANCISCO, DECEMBER 24, 1904.

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The Week.

Shorter, duller and darker days with chill and fog and a threat of rain in the air are in contrast with last week's brilliance, but meantime the sun has swept through the winter solstice and is now northward bound to bring in due time delectable summer days to the north temperate zone. Let this passing of the shortest day combine with the holiday spirit to dissipate the depression which darkness and chill bring even to sanguine temperaments. Christmas, which will come soon after this printing reaches readers, sheds its brilliance over the current days. The week is being given freely to the delights of the holiday season. Judging from casual observation in the city marts, money is being spent as lavishly as usual and there are even more than the usual temptations to unloose the purse strings. Judging by the spendings, which are in fact a good measure, Californians are going to have a very merry Christmas this year. There is, in fact, every reason why they should, for nearly all lines of effort are full of activity and its rewards. Conditions through nearly the whole area of the State promise abundant production. The air is full of enterprises and development and the ranks of new home makers are full and long. It is a good year to be alive in; a good year to be so full of gladness that impulses to distribute gladness shall be strong and warm. Let it be then an occasion with all of us not only to be glad, but to make glad, the influence of such a use of the Christmas chance will not end with the week nor with the year—it will remain to bless a lifetime without end.

Wheat futures have fluctuated, but are stronger at the close. Spot wheat is quiet and steady. One mixed cargo, largely barley, has gone to Europe. One charter has been made at 16s 3d for Europe—the lowest of the season; other ships have gone out in ballast for Australia. Barley is strong for high class feed, which can be delivered to fill contracts. There is some call for Europe and Asia, but buyers are trying hard to bear prices. The best seed oats are strong; corn is lower; rye is firm. Beans are all quiet except pinks, which are stiffer. Bran and middlings are unchanged, but are firmly held and the demand is fair. The higher grades of hay are better in tone, as Asiatic shipments are expected and the Government is also looked for as a buyer. Beef and mutton meet a good trade at prices unchanged, except the high figures for Christmas specials. Hogs are weak, but not lower; packers are operating a little. Butter is up, but not very firm at the advance, as cold storage supplies watch the chance to rush out. The same is true of eggs, which like to get out of the cold, and this is possible because the best fresh are moderately firm and not in large receipt. Poultry is selling fairly, choice chickens, ducks and geese going better than last week. Turkeys are, of course, the principal thing, and they are dragging a little because buyers are holding off, expecting more Eastern to arrive on Friday, and no great change in values is expected. The health authorities are alert for embalmed birds held over from Thanksgiving. Potatoes are firmly held; Salinas and Oregon not abundant and Rivers in ample supply. Onions are unchanged, with plenty to meet current demands. Apples are steady and supplies liberal. Choice oranges are in good demand and not abundant, though common are plentiful and cheap. Lemons and limes are dull during low temperatures. The dried fruit trade has the holiday dullness, but everything except dried apples is in good shape. Nearly half a million pounds of prunes have gone out, chiefly to Germany. Nuts are quiet. Little honey is offered and little called for. Hops are doing nothing here, though sales at the north are better than last week. Wool is firm and little in sight at this point.

The bunch of Farmers' Institutes in southern California listed on page 382 of our issue of December 10 will begin before New Years and fill the following week. They will all be full of interest. We wish, however, to call special attention to the largest of the group—the Farmers' Club Institute, which will open in Santa Barbara on Tuesday evening, January 3rd, and continue until Friday. This is the great assembly of the south in the agricultural interest and is not only generously supplied with University speakers, but has a full contribution of well-considered addresses and discussions from representatives of the southern California farmers' clubs. It will be a very good time to make a southern trip and be entertained and edified, and reduced rates can be had on the Southern Pacific, which threads that country. Our central and northern Californians should indulge in visits to the south, taste the warm welcome of the people and note their ways.

That cow demonstration at St. Louis, of which we had the Jersey aspect recently, does not seem to strike the advocates of other breeds in the same way, and we are going to take the first opportunity to show what those divergent views are. It is becoming doubtful whether any competitive test can be planned and carried out which will settle anything to the satisfaction of rivals. Perhaps, too, it is not best that any such demonstration should be had if, indeed, it ever could be. This, however, can be acknowledged by all—that all such tests bring all the competing breeds more sharply into the light of public interest and the result is toward having better cattle all around. If this view be true, and we have much confidence in it, then all the tests and all the sharp disputes which follow them are worth having. The next illustration will be at Portland next summer and great preparations are being made for it.

A new secretary has been chosen for the State Agricultural Society, Mr. Albert Lindley, a man of good repute and much experience in public affairs, being chosen. He comes into administration of the Society's affairs at a very interesting time. A new site for State Fair grounds has been chosen—what is known as the Lansing tract, eighty acres, at $22,000. It is near the city of Sacramento and attainable by car lines and railroad, and is said to be construction of a race track, and has room, in addition, for grandstands, pavilions and exhibit halls. There seems to be a popular demand that the old pavilion shall be removed from the Capitol grounds.

There is good ground for the protest of the Humboldt county dairymen against the disposition of the San Francisco merchants to gamble so freely in Eastern butter. The Humboldt County Creamery Exchange claims that this season's low prices are due to speculative operations on the part of the San Francisco commission houses. The records of butter receipts of San Francisco from the East during the months of June, July and August show that millions of pounds of cheap and inferior Eastern butter was brought out and placed in storage, greatly to the detriment of the selling of fresh California creameries.

QUERIES AND REPLIES.

Green Manuring of Orchard.

To the Editor:—I have a prune orchard near Santa Clara. Part of the land is a fairly dry, sandy loam, part is a lower formation of clay. It was all cropped for hay many years before I planted it in trees. In the vicinity soils thus worn-drained have, I hear, been largely benefited by green manuring—by sowing cowpea or other forage plant early in winter and "turning it under" in spring. On reading the article "Inoculating the Soil," in a recent number of the Century, I wondered if it would not be wise to experiment with the orchard by obtaining some of the "nitrogen-fixing" preparation from Washington and preparing seed of some leguminous plants and sowing as above set forth.—Owner, New York.

The theory of green manuring evidently holds true with reference to the improvement of orchard lands in your district of California. The application of it, however, has to be undertaken with due regard to local conditions. In those districts of California which are largely dependent upon rainfall, it is necessary to get a growth of the leguminous plants during the winter time, when there is moisture present which the trees do not need. For this purpose it is desirable to sow the legumes as soon as there is moisture enough from the early rains, and to plow under early in the spring, so that the vegetation may decay and not interfere with the clean culture and thorough pulverization of the surface during the dry season. Now the cowpea is not at all suited to that growth, because it is a summer grower and will not stand even the light frosts of the California winter. Two of the best leguminous plants for winter growth in California are Burr clover (which is widely distributed over the State naturally) and common field peas. Experiments are continually being made to determine the suitability of other plants and something better may yet appear, but the two named are the most trustworthy so far.

As to whether you need inoculation along the lines of the Century's article, to which you allude, depends entirely upon whether the bacteria satisfactory to the growth of these plants are already present or not. They are clearly present in coast California situations, as is shown by the free growth of the plants mentioned, and there is apparently nothing to be gained in such situations from introducing the bacteria. Experiments, however, in that line are always interesting and may demonstrate something which it does now seem now to be reasonable to expect. If you have good supervision of the place, you can hardly miss it by getting in Burr clover or field peas, or both, as soon as possible, for we are having a very mild winter and conditions seem to be favorable for growth even during what is oftentimes the closed part of the winter.

Tomato Troubles.

To the Editor:—This year I planted fifty acres of Stone tomatoes on mixed sandy land near Dixon. Our plants grew splendidly and blossomed by April 15th. We used great care in the irrigation of same, and watered them four times from the end of June to last of August. They seemed to grow all to vines and covered the ground completely, but the blossoms fell off, and did not show fruit until middle of August; they then bore extremly heavy, but the September rains nearly ruined our entire crop. I had raised tomatoes on Sacramento river bottom land and the blossoms always stuck and produced fruit. I used the same care of these, but all early blossoms fell off. Do you think there is any way of producing better results? Do you know of any other early kind that is a good producer and good size?—Grower, Dixon.

The description of the behavior of your tomato plants seems to indicate that you used too much water in the early part of the season, or else the soil retained too much from the rainfall. Whenever a tomato plant grows so vigorously it cannot hold its blossoms, because what is called the vegetative energy of the plant is greater than its fruiting energy, the blossoms only will set after this vegetative energy becomes somewhat reduced by the exhaustion of the moisture later in the season. Your different experience on the Sacramento river indicates that there must have been a different condition which forced the plants to make more moderate growth, and in that case to hold their blossoms well. The only thing that we can suggest is that you set the plants a little later, after the soil has lost part of its moisture, and then do not irrigate unless you see

by some wilting of the vine that the plant needs moisture. For early tomatoes, if you want early tomatoes very much, you will probably have to grow them on the uplands, like the hill slopes in the Vacaville and Winters district, for there the soil is shallower, parts with its moisture more readily and also has a higher heat early in the season, which checks growth somewhat and promotes fruiting. We do not think it is a matter of variety of the tomato. It is simply a question of escaping such a vigorous growth of vine early in the season.

Licorice and Peppermint.

TO THE EDITOR:—Will you discuss the growing of licorice and peppermint, and tell what is the process of distilling the latter?—P. L. C., Stockton.

Licorice and peppermint will grow very freely in California, but neither of them offers any profit. Licorice root grows very readily in light lands of the reclaimed islands, but the cost of getting the roots out of the ground and the cost of the freight to the Eastern market are both too great to enable California growers to compete with the growers of Sicily. The late Mr. Isaac Lea of Elkgrove tried this experiment to his full satisfaction and finally abandoned the effort. The licorice plant is a rank weed and exceedingly difficult to exterminate if you desire to use the land for other purposes. As for the growing of peppermint, the fact is that all the peppermint oil that can be produced profitably is now being made in one or two counties in the Eastern States, and even in those counties the oversupply often causes such a reduction in the price that the crop is no longer profitable. Peppermint growing has also been faithfully tried for the last twenty-five years, here and there, all the way from California to the State of Washington, and always without profit. The distillation is a simple matter, merely requiring a couple of tubs, like our windmill tanks, made steam tight and connected with any kind of a steam boiler, with suitable valves so that the steam can be turned first into one tank and then into another, so that one tank is being filled with the mint while the other is being distilled by the passage of the steam which is collected in the large tin "worm," where the steam condenses and the oil and water run out together, the former being run off from the surface of the water into suitable receptacles. The culture of the plant is very simple. It is grown, cut with a mower, and brought to the still, very much as alfalfa is taken to the stack. California could produce any quantity of it, but there is no inducement to undertake it. California needs good poultry, dairy and garden products, and there is more opportunity in them than in these peculiar things, for which, on the whole, the world has little demand.

Black Knot of the Vine.

TO THE EDITOR:—I send specimens of diseased grape vines, which I suppose is black knot. Has pruning anything to do with the disease, and have I been leaving too much growth on the vines? I have been told that too short pruning will produce such, and would be pleased to hear through the columns of the PACIFIC RURAL PRESS the cause of this disease. —SUBSCRIBER, Lodi.

The specific cause has not been made out, but has been presumed to be identical with that of root knot of fruit trees; but it may not be so. As for conditions, they are too little known to say much about. The theory of many has been that short pruning caused an extravasation of sap, resulting in abnormal cell growth. You have been working just the other way and reach the same result. The fact is no one knows the cause and notions are very conflicting.

Stocks for Cherries.

TO THE EDITOR:—Can you inform us where cherry trees on Morello stock can be obtained? As far as we can learn, your advertisers have them only on Mahaleb and Mazzard. How does the Morello thrive in clay soils, and how does it resist extremes of wetness and drought as compared with the ordinary stock? Is it in use to any extent in California, and can you refer us to any grower with orchards on that stock?—JOHN SWETT & SON, Martinez.

Morello stock is not used in California, and we doubt if you can obtain trees on that root from any of our nurserymen. The Morello is also under condemnation in the East for poor growth and inhospitality to buds or grafts of sweet cherries which are entrusted to it. Even in localities where the Hearts and Bigarreaux are doubtful, and the Dukes are planted because they are more hardy, the Mahaleb root is chosen for the latter, although a Morello would seem to be nearer to its nature. Even when a dwarf tree is desired the root is generally the Mahaleb, and dwarfing is secured by cutting back continuously. All this is against the Morello root. It seems to have had every opportunity in the way of experiment and trial for generations, and yet such is its condemnation. It is a dwarfing root, and, if a better grower, might have cut a better figure in pomological practice. It will endure clay soils and alternations of saturation and drought, but so will the Mahaleb, and the Mahaleb is a vastly better grower. Until quite recently nearly all California trees were propagated on the black Mazzard, as you know, but very recently the Mahaleb is coming into use in the more trying situations, and is, under California conditions, a sufficiently free grower to answer the purpose.

The Pecan Again.

TO THE EDITOR:—What are the latest conclusions about pecan growing in California? Does it justify investment?—READER, San Bernardino.

There are indeed places at certain elevations and away from the coast where the seasons are sufficiently marked to make the pecan tree behave itself, but wherever it has been tried thus far near the coast it has kept growing too late in the season and has failed to mature its nuts properly; nor does it enjoy the dry heat of the interior, except on rich, deep lands with ample moisture. The places where it would be most likely to succeed in Southern California would be in some of the mountain valleys where there is sufficient depth of soil and moisture to keep the tree growing well and still signs of the approach of winter sharp enough to remind it that the season is closing. The subject of pecan growing as related in California is of exceeding interest, but its present standing indicates that investments should be made with great care and almost wholly on an experimental basis.

When to Sow Alfalfa.

TO THE EDITOR:—Could you inform me as to the best time for sowing alfalfa in this valley, and let me have any bulletins you may have on alfalfa culture?—ENQUIRER, Napa.

The time of sowing alfalfa depends upon the local liability to sharp frosts. If you had sown it after the heavy September rains, it would by this time have been high enough, probably, to endure frosts without serious injury, but now it would not be safe to sow until the heavy, freezing and cold rains of winter are over. In your part of the State, on the lower lands a March sowing would probably be satisfactory—possibly even a little later than that, if March is cold and rainy. On the uplands of your valley, where frosts are almost absent and where the soil is not too retentive, alfalfa can be successfully sown in February, about the same time that spring sowing is done in the interior valleys. As you will see by the foregoing, it is not possible to set definite dates, because times are dependent upon local conditions of temperature and rainfall.

A Deterrent for Gophers.

TO THE EDITOR:—In your last issue a reader inquires about destroying gophers in carnations. I read several years ago that they would not invade ground where hen manure was freely used. At that time I was looking after several carnation beds and, as hen manure is called one of the best fertilizers for carnations, that was being used—and, while I looked after them for years, the gophers did not bother them, although working in places where that was not used. I have a few carnations that I noticed a short time ago a gopher was working toward and, as I had not fertilized them, I dug a trench about a foot deep on the gopher side and put hen manure in bottom and on ground around, and he soon left for some tomato vines where I located him and dispatched him with a shot gun.—F. H. F., Carlsbad.

This is interesting and worth trying. Hen manure may be used, however, with some circumspection, because it is very energetic as a fertilizer and in excess too near the plants may be destructive.

All Two-Rowed Barleys not Chevalier.

TO THE EDITOR:—I bought some barley of Mr. Hageman of Livermore valley, called Moravian. He got his start at the University Agricultural Experiment Station. I am selling it and I find parties who call it the Chevalier. Will you please tell me the difference between the two barleys, as they are both two-rowed.—GROWER, Yolo county.

The Moravian barley is not the Chevalier. Both of them are two-rowed barleys, and for that reason some people are disposed to consider them identical, because they do not know that there are scores of two-rowed barleys which are neither Moravian nor Chevalier. The difference between the Moravian and Chevalier, as manifested by growth in California, is in the superior hardiness and productiveness of the Moravian, as it has demonstrated its success in districts where the Chevalier has not proved altogether satisfactory. The same thing will probably be true of some other two-rowed barleys which are now being introduced for trial and of which a distribution on a small scale will be undertaken this year by the Agricultural Department of the University.

WEATHER AND CROPS.

Report of the U. S. Weather Service for Week Ending December 19, 1904.

ALEXANDER MCADIE, Forecast Official and Section Director.

Sacramento Valley.

Light rain fell at the beginning of the week. The latter part was cool, partly cloudy and foggy, with heavy frosts in some places. Grain continues in excellent condition and is making fair growth. The acreage already sown to grain is large and will be materially increased. Plowing and seeding are in progress. Green feed is plentiful, but its growth has been somewhat checked by cool weather. Oranges and olives have not been injured by frost. The olive crop is nearly all gathered and orange harvest is progressing rapidly; both crops are reported very good. Strawberries are plentiful in the markets. Pruning is progressing in orchards and vineyards.

Coast and Bay Sections.

Cool, partly cloudy and foggy weather prevailed most of the week, with light rain in the central and northern sections, and frequent light frosts in most places. Plowing and seeding are progressing and the grain acreage in some sections will be larger than usual. Early grain continues in good condition and is making fine growth. Pasturage is failing in some parts of the southern districts, but is plentiful elsewhere. Stock are in good condition except in the south. Orange and lemon trees in the Cloverdale district are reported in excellent condition and give promise of good crops. Lemon picking has commenced. A few orange trees are still in bloom. No damage to citrus fruits has yet been done by frost.

San Joaquin Valley.

Cool, cloudy weather, with dense fog in the mornings, prevailed during the past week. Plowing and seeding are well advanced in the northern portion of the valley and progressing slowly, but in the central and southern portions farming operations are at a standstill owing to lack of rain. Orchard and vineyard pruning is progressing in some localities, but is not general. Green feed is plentiful, and stock are healthy and in good condition. The orange and lemon crops are nearly all harvested. The fruit is of excellent size and crops large. Heavy frosts occurred frequently, but caused no damage. Large shipments of hay and potatoes continue from Stockton to southern California.

Southern California.

Generally warm weather prevailed during the week, but with cool nights and light frosts in some places. Irrigation is in progress about the same as in summer, where water can be obtained. Oranges in the vicinity of Upland are better colored than for several years at this date. Lemons are in good condition, with prospects of a full crop. Orange picking and shipping are progressing somewhat slowly. Frosts have not injured citrus fruits. Pasturage is very scarce and in some places cattle are suffering. Dry plowing is in progress in some places, and a little grain has been sown.

LOS ANGELES SUMMARY.—Oranges are ripening rapidly in the coast sections; they are sweet and of uniform size; ripening slowly in the south, with few shipments. Irrigation continues same as in summer, with water holding up well so far as reported.

EUREKA SUMMARY.—Heavy frosts in the interior the latter part of the week caused no damage. Planting and seeding are progressing rapidly; a large acreage is being sown to oats. Grain is in excellent condition, but growth retarded by cool weather.

Rainfall and Temperature.

The following data for the week ending 5 A. M. Wednesday, December 21, 1904, are from official sources and are furnished by the United States Weather Bureau for the PACIFIC RURAL PRESS:

CALIFORNIA STATIONS.	Total Rainfall for the Week	Total Seasonal Rainfall to Date	Total Seasonal Rainfall Last Year to Same Date	Average Seasonal Rainfall to Date	Maximum Temperature for the week	Minimum Temperature for the week
Eureka	.20	11 61	17 34	15.38	56	40
Red Bluff	.00	11.61	11.82	9 03	60	34
Sacramento	.00	7.90	4.44	6 20	50	34
San Francisco	.00	9 00	6.02	8.46	56	38
Fresno	.00	5 07	.90	2.85	60	30
Independence	.00	.45	.42	1 41	60	28
San Luis Obispo	.00	4.73	.82	5.97	82	38
Los Angeles	.00	1 48	.43	5 07	86	48
San Diego	.00	.23	.42	2 36	82	52
Yuma	.00	.91	.66	1.52	76	40

FRUIT MARKETING.

Business View of Agricultural Organization.

By A. R. Sprague at the State Convention of Fruit Growers' at San Jose.

What are the objects of business organization? Among them I suggest:

First, to secure the orderly dispatch of business, thus preventing the waste which results from interferences.

Second, to concentrate business in order that, without extravagant cost, efficient employes may be secured, and other business facilities obtained.

Third, to prevent destructive competition.

Fourth, to concentrate power sufficient to secure proper grading of the product, thus protecting the market from poor or fraudulent material, and on the other hand protecting the consumers from excessive prices, also to secure such extension of the market as can only come from efficient advertising. In short, to buy low and sell high, and to manufacture and handle at the lowest possible cost.

These are the main purposes of all organizations, whether in transportation, in manufactures, merchandising, of labor, or in agricultural pursuits.

In other lines than the last it is no longer a matter to be debated. As well might we discuss whether or not we should use the steam engine or electricity.

It was long ago decided in those various lines that organization was not only desirable but absolutely essential to their business survival. Point me to any instance of lack of organization and I will show you an industry which is the prey of all others, in which the rewards of effort are uncertain and its whole outlook discouraging.

These statements are so generally admitted that I am not warranted in further enlarging upon them.

Agriculture Unorganized.—The only form of industry that still remains practically unorganized is that of agriculture. This is the most fundamental of all industries, since from it all others are derived. Let agricultural production cease for a few weeks and all other wheels of commerce and trade would stop. Merchants, manufacturers, bankers, with all their efficient organizations, would find nothing to do, should the farmer cease to use his labor in transmitting the dull clods into the varied forms of raw material from which the rest of the world lives. He is the primary wealth producer, and therefore whatever promotes his well being should deeply concern the rest of society. It must, therefore, be a matter of great solicitude to all business interests, that the farmer is at so great a disadvantage for lack of organization, and a way should speedily be found to change this condition.

The Fruit Industry.—The fruit interest of this coast give a most impressive illustration of the losses to the whole community resulting from a lack of effective business-like organization of the industry.

In making this statement I except the Southern California Fruit Exchange in the South and the California Fruit Exchange in the North, as both of these organizations have for years been in successful operation to the great advantage of the growers co-operating, and indirectly helping all fruit growers.

Briefly reviewing the present custom of selling our dried fruit product, I take the case of prunes, as affording a specific illustration of conditions that normally affect the whole line of dried products, for if in any particular season reasonably good prices prevail for any of the other dried fruit products, it is found to be due to an excessively short crop. We can well remember when with but a moderate crop of peaches, apricots or raisins, the prices fell below the cost of production.

Selling Prunes.—Prunes are now first sold by growers to packers, who mostly buy upon a basis price. In this manner the grower is at every disadvantage, for in counting the number of prunes per pound a deft and unscrupulous buyer can easily make it appear that prunes that easily average 50s–60s seem to average but 60s–70s, by which bit of juggling he gets ½ cent per pound advantage, so that while the grower appears to be selling at 1½ cent per pound basis for the four sizes 60s–90s, he is really selling for but 1 cent per pound. Again the packer who buys without grading estimates far more accurately than the grower the quality of the prunes, for he makes a hundred times as many such estimates. But this evil, although serious, is but the beginning of losses which present market conditions make inevitable. More than a hundred packers great and small seek to sell prunes through hundreds of brokers. To these brokers, who each usually sell for several different shippers, samples are sent with prices quoted. In many large cities each jobber is thus solicited by many brokers, each seeking to effect a sale. No one knows better than the broker, that the quick and sure way to effect a sale is to offer at a lower price than do his competitors. This cut is sometimes made by giving to the buyer a part of his brokerage, or by giving a higher grade of product at the current price, or by an open or secret cut in price. The jobber frequently asserts that he has been offered a cheaper price by a rival broker, and this fact is at once wired back to the packer upon the coast, to secure permission to meet the cut. Very often these assertions are wholly false, simply a ruse to secure a real cut. The result is inevitable; among a hundred different firms, each anxious to sell prunes, some will be found who will make a concession in price to effect a quick sale; this is followed by others until the price so declines as to disgust every jobber who has already bought, as well as to warn from buying those who were expecting to do so. If the wholesaler has been able to sell freely to the retailer, the latter, too, participates in the general loss, and he, also, is "disgusted with prunes," and will have no more to do with them than he is absolutely obliged to.

When this sluggish state of the market has been thus produced, the brokers who also sell many other articles find that much more money can be made by vigorously pushing the sale of some of these things—dried apples, rice, canned goods, etc.

Thus we see the whole field of selling activity slowing up at a time when it should be most active.

As if this were not enough with which to afflict the industry, the situation is greatly aggravated by shipment of prunes of poor quality, either originally defective in sugar, or poorly cured so that they have fermented or suffered other injury. Because they all look back and are packed in boxes marked choice, neither the dealer nor consumer readily can detect their poor quality, but when cooked they do not taste good, and that family that has bought them swears off from prunes for a long time. Now we as a nation are eating hardly more than one pound of prunes each per year, and such experiences with poor prunes tend seriously to lessen even this light consumption.

Contributing to the general uncertainty is the custom of selling futures before the crop can be forecasted, thus arbitrarily making prices unwarrantably low in years of scarcity, since it is almost impossible to raise prices after they have been fixed by extensive offerings of futures. More and more, too, the Eastern wholesaler is insisting upon shipment of prunes in original condition, thus increasing the probability of manipulation of the fruit to the disadvantage of the consumer.

There is nowhere any effective control of the business of selling. The big packers are as helpless as the small ones and the situation in every way illustrates the evils of a lack of business organization.

Pushing Trade.—Contrast with this the organized methods by which other lines of special food products are sold. One firm employs 300 men in the business of pushing its products into consumption. The whole of the United States is divided into districts with an agent in charge of each. Subordinate to this district agent is a corps of salesmen in active service and reporting daily to the district supervisor. Each of these superintendents likewise reports to the general sales manager at the head office. This firm spends from $1000 to $2000 per year in advertising the desirable qualities of their goods and explaining how much healthier all would become by using this product—never losing a chance to get a new consumer. They fix the price at which the product is to be sold to the consumer at a point which leaves a fair profit to producer, wholesale and retail dealer, and yet it is not so high to the consumer as to prevent the general use of the article by all classes. In case the demand for their goods diminishes in any territory, they at once seek to know the reason and to fix the responsibility for it, and then bring the whole power of their organization to bear upon the recovery of the lost business.

They have annual conventions of their salesmen and supervising agents to compare experiences and advise together for the future advance of the business. They do not hesitate to pay enough to secure the services of the best men to be had for such work.

And this is not an exceptional instance, it is the method commonly used in selling almost all lines of manufactured goods.

How it Would Work With Fruit.—Picture the influence upon our dried fruit and raisin industry of such an organic system of selling the products. Instead of waiting for something to happen to make prices recover, think of making things happen by the pressure afforded by 300 efficient salesmen wholly devoted to our business!

Think of being able to plan for the expansion of consumption by reaching the consumer in convincing ways and to know pretty nearly what our product will be worth several years ahead!

Economy is only possible with organized control, and every efficiency likewise depends upon it.

Some people conceive that such systematic packing and selling of our products would be a difficult achievement. It is always more easy to achieve a desired result in an orderly way than through disorder and confusion.

We may safely say that if 90% of the product could be under a single administrative control, the destructive competitive prune offerings would cease; utterly bad prunes would be kept out of the market, and uniform grades and an honest pack could be maintained; a largely increased consumption could be secured by extensive and expert advertising and up-to-date methods of selling; so that as a result of all these better conditions a market would easily be found for even a large increase beyond our present prune product at double the present price to the grower.

What Would Result.—Thus in prunes alone, there would be saved to the State over $1,500,000; add twice as much more for raisins and other dried fruits, and thus the aggregate would exceed $4,000,000 which would be saved, but which now seems likely to continue to be lost to the fruit growers of the State for lack of organization. Surely no other one thing could so powerfully act to promote the prosperity of every commercial interest as this. What a field for efficient work for the 126 promotion organizations soon to meet in State convention at Los Angeles.

Doubtless there is not a single fruit grower who will hesitate to assent to all of the foregoing; but—and here we are right up against the fundamental difficulty—they say growers will not organize. They have been so discouraged by the failure of the system of co-operation attempted by the prune and raisin growers that they are utterly disheartened and disgusted. Many doubtless would be willing to try once more, and this time with a thoroughly tested and approved system; but too many others would want to wait and see if it succeeds before they are willing to join (although that very act from them is essential to its success,) and so many others hope to profit by its success by remaining outside that it is not probable that a controlling percentage could be secured upon a strictly co-operative basis.

A Profit Sharing Proposition.—Accepting this, then, as one of the facts to be regretted, but yet acknowledged, I suggest that most of the objects sought may be accomplished by a modification of the co-operative plan—a profit sharing basis.

We may, perhaps, safely assume that the prune grower, even if unwilling to do business for himself by co-operative methods, will yet be willing to aid in saving the industry, if he can do so absolutely without risk, and at the same time can be sure of getting something more per pound for his prunes in cash on delivery than now he can reasonably have any hope of getting for the next few years. If the prune growers will contract to sell their prunes for a period of five years to a corporation to be formed for the purpose of packing and marketing them, receiving from such company as a consideration for thus giving control for this period, dividends from such profit sharing corporation amounting to one-half of their net profits—if the prune growers are willing to do this much for themselves, I feel assured that public spirited citizens can be found with sufficient capital to successfully work out the redemption of the dried fruit industry of the coast, first for prunes and then for all the rest It may be argued that no agreement could be reached as to the price, but it would seem if growers could be sure of getting even a little more than the present price together with each his fair share of the gains resulting from such organized selling, he should be content. The idea of a long term contract is familiar to coast growers because of the custom of the wine organized, as well as of the canneries, and the plan has been found very satisfactory to both the grape producers as well as those who grow cannery fruit. We well remember that the state of the wine grape growers previous to the organization for selling the product was most desperate. If, then, they were willing to give control without consideration beyond the market price of their grapes, how much more willing to do this should the prune grower be, if, without investing anything he can arrange to participate in the profits of the business equally with those who risk their capital and undertake the stress of managing so large an undertaking. It may be urged that the company would so manage as to absorb profits in obscure ways so that there would be no dividends.

To this it may be answered that doubtless men could be found to act as stockholders and directors in whose character the people of California already trust, and further that a yearly audit of their affairs by a public audit company should be provided for.

Of course no large business could be conducted without a basis of confidence between the contracting parties, and the instances where a group of men have abused such are very few.

The contracts should be held in escrow awaiting the signing of a controlling percentage of the crop and the formation of a company able and willing to carry the plan to a successful issue.

Will They Do It?—All of the details involved in the operation of such a plan could easily be worked out. No fundamental difficulty exists except the possible unwillingness of the prune growers to give the necessary control. If once it is put into effective operation it will naturally invite the participation of all other California cured fruit interests, and would suggest a method available for all other lines of agricultural production, subject, of course, to modifications suiting the varying conditions peculiar to each industry.

THE GARDEN.

Winter Vegetable Growing in Southern California.

What can be done in favorable situations in California by the application of energy, insight and knowing how to do it, to the winter growing of tender vegetables can be learned from experience collected

by the Monrovia Messenger, from which we compile the following statements:

The Situation.—The frostless belt along the Sierra Madre foothills is acknowledged to be one of the best citrus districts in the State, and there is now abundant promise that it will attain equal prominence in winter gardening. Diminishing returns from citrus orchards, whether resulting from faulty marketing methods or from a disproportionate increase in supply, as compared with the demand, or both, is a matter outside the scope of this article, and is only referred to as one reason why orchardists having suitable unimproved land are abstaining from planting more fruit trees, and are studying the possibilities of other crops.

To the orchardist owning idle land along the foothills, the problem presents itself in about this form: "I have land yielding nothing. It is adapted to raising oranges, and I paid an orange-land price per acre for it, but I prefer not to 'put all my eggs in one basket.' How, except in citrus culture, can I utilize this land so as to benefit by the peculiar advantages inhering in the location?" The perfecting of the gas engine in recent years has rendered the solution of this problem easier than it would otherwise be. The first essential to success in vegetable growing is that a sufficiency of water be obtainable at any time. Where the community system does not permit of this and well development is feasible, private plants run by gas engines are being installed.

An Instance.—Three years ago Mr. C. H. Sebree, after a careful review of the situation, decided that, if no danger was to be apprehended from frost, there was more money in winter gardening than in orange growing. Mr. Sebree owns two ranches, comprising 155 acres, situated 1 mile north of Arcadia, and about 1½ miles east of Sierra Madre. The lower ranch of twenty-one acres is in full bearing navels. The upper ranch, "Crow's Nest," of 134 acres, besides a large navel orchard, includes quite an extent of unimproved arable land, well sheltered by the hills, and having a mean elevation of about 1100 feet. It was here that Mr. Sebree began his experiments.

Determining Conditions.—First of all he determined to ascertain, as nearly as possible, the winter temperatures of the different sections of the ranch. To this end he placed thermometers at several stations, and kept careful record of all variations. "One swallow doesn't make a summer," nor are one season's meteorological records conclusive, but, as will be recalled, the winter of 1902–3 was unusually severe, and its minimum temperature might fairly be accepted as the probable limit in that direction. Though the danger point was once approached within 2°, it was never quite reached, and, all things considered, the experimenter concluded that, with reasonable precaution, winter gardening would be a safe and paying proposition. A mountain tunnel development afforded a water supply which could, if required, be all used for vegetables, since a well pumping 16 inches on the lower ranch and a spring of unknown capacity on the higher ranch could be depended upon to furnish water for the orchards. Under these favorable conditions, the first garden crop was planted in the summer of 1903.

Personal Fitness.—For many years the present owner of "Crow's Nest" was engaged in commercial enterprises, and the same business methods which contributed to his success he now employs in the management of his ranch. He keeps a complete set of books, which show to the last fraction of a cent what it costs him to produce and market a box of oranges or a pound of tomatoes, and the receipts therefor. His accounts are as detailed and accurate as those of a bank, and the following data, copied from his journal and ledger, can be relied upon:

The Crops.—In 1903, fourteen acres of tomatoes, two and one-fourth acres of peas and two and one-fourth acres of string beans were planted. The marketing of tomatoes began in November and continued until July, 1904. The peas and beans were not ready for market until December. The bulk of the tomato crop was sold by Mr. Kennedy, Santa Fe agent at Santa Anita, in Arizona, New Mexico and in northern and eastern markets. The peas and beans met with ready sale in Los Angeles, Pasadena and neighboring towns. In fact, most of the peas were sold in Sierra Madre. Prices for tomatoes ranged from 75 cents for a 20-pound basket, early in the season, to $2.25 for a 20-pound basket in January and February. Net returns from the three crops varied but little, and considerably exceeded $500 per acre.

This season Mr. Sebree began planting August 23d and marketed his first tomatoes November 25th. He now has fourteen acres in tomatoes and nine in peas and beans. He is preparing to at least double this area next year. He states that his returns for tomatoes would have been larger had he staked the plants. Unless supported they lie close to the ground, and not only is the yield lessened, but the expense of picking is increased. He also believes that in a frostless district the tomato is practically a perennial, and the expense of transplanting may be done way with. Last July, when he stopped marketing, the vines, with the exception of a few left to experiment with, were pulled. The few which were left were cut back, but have sprouted so vigorously and are so prolific that next year he expects to follow this method with the whole field.

Another Instance.—On the Foothill boulevard, about ½ mile beyond the west city limits of Monrovia, is the fifteen-acre ranch of Henry Liefer. Seven acres are in full-bearing Navels. Mr. Liefer is well satisfied with returns from his orange grove, but believes in diversified agriculture. He began raising vegetables and berries for the winter market in 1902, and found so much profit in the business that all that portion of his ranch not in oranges is now used for gardening. He sells the greater portion of his produce in Pasadena, and in order to escape the competition of vegetable growers in the valley, plants a little later than Mr. Sebree. After the first cold snap the low-lying ranches go out of business and leave a clear field for those whose ranches are above the frost line.

Mr. Liefer's profits equal Mr. Sebree's. His tomatoes, beans and peas paid a little more than $500 per acre. Last year he had but three-quarters of an acre of strawberries in bearing, and netted $510. This season he has two acres in bearing. When asked regarding it, Mr. Liefer said: "No, I do not think it requires more water for vegetable growing than to properly irrigate a citrus orchard, but you must have it when you want it." He obtains his supply from a well, pumping 20 inches, at the mouth of the Santa Anita canyon.

Small Fruits.—Within the city limits, at White Oak and Mayflower, G. E. Ross has three and one-half acres of berries—one and one-half of strawberries, one each of blackberries and raspberries. The strawberries have netted over $600 per acre. The other berries, though not so profitable, have paid well. An acre of loganberries, proving unsatisfactory, has been plowed up.

The results obtained by the above-mentioned rancher during the past three years can be accepted as a fairly accurate measure of the possibilities of gardening in the foothills. This season the acreage has been considerably extended.

In the southern portion of the city and in lower Duarte some thirty-five acres are devoted to summer gardening, but the location does not guarantee immunity from frosts, and winter gardening is not altogether a safe proposition, but berries and produce mature very early in the spring and bring good prices.

Without exception, it is the belief of those engaged in it that there is, location being favorable, much more money in winter gardening than in citrus culture. The demand seems illimitable, and shippers aver that the supply could safely be increased a thousandfold. In gathering data for this article great care has been taken to get at exact facts. Estimates and guesses have been eliminated.

FORESTRY.

Private Rights in Forest Reserves.

The permanent prosperity of nearly all the far Western States is threatened by the destruction of the forests on the watersheds of irrigation streams. Wasteful lumbering, excessive grazing and fires are unceasingly cutting down the efficiency of the forests as sources of water supply. Conditions are rapidly growing worse, and this is evidenced by the constant demands of citizens for the creation of new forest reserves. The great difficulty is to determine boundaries which will include only lands suitable for the purpose, and will avoid injury to local enterprises. The interests of the settler, the cattle or sheep man, the miner, the lumberman, and the irrigator, often all dependent upon the same region, are always more or less conflicting. Seldom is a reserve created without opposition from one or more of these interests. Commonly the practice of the Government is to withdraw from settlement all the land involved until it can be carefully examined, after which the suitable portion is included in a permanent reserve, and that which proves to be open, agricultural, or largely under private ownership, is released.

A settler who has entered upon a claim which is later included in a forest reserve does not thereby lose it. He may return it to the Government and in lieu thereof select another equal portion of the public domain. Or, if he elects to remain on the claim, he is protected in all his rights of ownership, is allowed free ingress and egress over reserve lands, and is also permitted, without cost, to cut reserve wood for domestic and farm repair purposes. Residents in the neighborhood of reserves are granted a similar free use of wood.

Omitting actual settlers, four classes of citizens are directly and specially interested in reserves. Lumbermen, stock grazers and miners are concerned with the forest as a producer of timber and grass. Farmers have their direct interest in the highest water conserving power of the forests. It is not possible so to adjust the claims of these four classes as to provide for them all. Each of the first three can so use the forests as not to injure the rights of the others, and can at the same time so conduct their several industries that the value of the forest in regulating stream flow will not be diminished. Indeed, under proper management it will actually be increased.

No authority exists for selling the timber standing on unreserved public lands. Its free use is being greatly abused, leads to numerous frauds, and has become an additional reason for reserve establishment for forest protection, as well as for the passage of a law permitting the sale of such timber. Lumbermen can buy this timber only by buying the land outright, and the law limits to 160 acres the size of the tract any one purchaser may secure. After the establishment of a reserve, however, the timber can be bought in large or small quantities. The cutting, removing and clearing must be done under contract with the Government, according to a definite plan, and with strict regard for the best welfare of the forest. Moreover the land, which remains in the Government's hands, is kept productive instead of going to waste after lumbering, as is too often the case when it falls to private ownership.

The vast public domain of the West has been given up to the stock business for pasturage in common. The forests, forming a part of this domain, have been subject to this unrestricted pasturage. The result has been disastrous to the domain both open and forested, but the forests have suffered the most injury. Restricting forest grazing by means of reserve regulations and inspection will eliminate the danger from overgrazing, will ultimately greatly benefit the business, and will, most important of all, enable the forests to perform their highest function for all the people. A few grazers may have their rights slightly abridged or more closely regulated, but the business as a whole is conducted in a more orderly way.

Prospecting and mine development are not at all restricted by reserve establishment. Miners require in their work both timber and water. Their demand for timber is comparatively not great, and they cut it somewhat more carefully than lumbermen have done. Their interests do not suffer in the least by forest reserve establishment. On the contrary, in the long run they will be greatly benefited by the protection which assures their future timber supply.

The greatest industry affected by forest reserves is farming. In many parts of the West it depends absolutely on the water flow from the forest. If ill usage impairs its storage capacity, and the stream flow, in consequence, alternates between flood and drought, or is permanently lessened, all the dependent farm land suffers severely. Every farmer has the right to insist that his water supply be not decreased, and the industry as a whole, the foundation stone of our national prosperity, commands and will receive the highest protection it is possible for the Government to afford. Irrigation for the arid West cannot be successful unless the headwaters of all streams are kept under ample forest cover.

Reserves are for use, not for ornament. They are not private forest parks, but are open to all persons without distinction. Free transit across them is always allowed. Pleasure or health seekers and hunting parties are privileged to enter them at all times and enjoy their resources to the fullest legal extent. The most important injunction laid on them is that the greatest care must be taken to extinguish all camp fires, since fire is the worst scourge of the forest, and of all its enemies the most dreaded.

The temporary withdrawal of lands pending a careful inspection to determine their suitability for permanent reserves affects seriously no private right other than that of entry as a settler upon some claim. No entry can be made after such temporary withdrawal. If lands settled upon are finally included in the permanent boundaries, the rights of the owners are as has been set forth. If such lands are excluded from the boundaries, their status has not been affected, except as it is improved by being so near a forest that will now be protected and managed for the general welfare. The whole theory of reserve practice is, special injury or advantage to none, but the greatest good to the greatest number.

HORTICULTURE.

The Inspection of Nursery Stock.

By Mr. George C. Roeding of Fresno at the Fruit Growers' Convention.

All fruit growers will concede that the growing of nursery stock is a legitimate business. No one will deny, who is at all familiar with the many difficulties which a nurseryman must contend with, that he is entitled to the same consideration any other business man would receive at the hands of the law. A nurseryman, who has the interests of a community, as well as his own, at heart, can do more than any other person to build up and advance the fruit interests, and encouraging the planting of ornamental trees for beautifying city gardens or making the surroundings of a country home pleasant and attractive. The progressive nurseryman is one who introduces new varieties of fruits and vines, ornamental trees and plants, adapted to the soil and climatic conditions prevailing in his district, and who also, through his experience in such matters, is in the position to advise and make recommendations to newcomers, as to what and what not to plant. Men who are such

important factors in developing the very foundation upon which the horticultural interests of any section are built, should receive every encouragement in the furtherance of their work.

Requirements of Nurserymen.—It is demanded of nurserymen that they shall have their trees true to name and that their stock shall be free from pests. Still, in many cases, after they have exercised all the precautions which any reasonable man could expect, it is a common thing to have stock condemned on general principles, even without inspection in some cases. When a nurseryman sells stock which may later prove untrue to name, the first inference of the fruit grower is to set him down as a scoundrel, and if he happens to be dragged into court on account of his shortcomings, he receives such a drubbing down that by the time the court, lawyers and jury have pased judgment on him he is willing to question his right even to exist.

Requirements of Growers.—On the other hand the unfortunate fruit grower who has a mixed up orchard is in a very serious position, and after devoting three to five years of hard work, money and time to bring his plant into bearing it is not in the least surprising that he should consider the injury which he has suffered with a deep feeling of animosity toward the man who has brought him to this state of affairs. To have nursery stock true to name is of the utmost importance to any nurseryman. This can only be accomplished by taking buds from bearing trees. For the sake of argument, we will admit that the only bearing trees from which buds can be secured are infested with scale, but rather than take chances on cutting buds from nursery stock, they are taken from the infested orchard. Before using these buds, however, the pest is killed by following formulas for fumigation recommended by our horticultural commissioners. When the trees are ready for the market scale is found on them, and again precautionary measures for killing it are followed.

What Often Follows.—After doing all this, is the nurseryman not entitled to be fairly and squarely dealt with? Do you know what happens in many cases? A county commissioner who examines the trees finds scale on them. He may only have been recently appointed, never has had any practical experience; no doubt received his job through political preferment. What does he do? Instead of notifying the nurseryman, and giving him an opportunity to investigate the matter first, he rushes to a newspaper office, reports his find, and the next morning there is a detailed account of how the zealous inspector has found insect pests on so and so's trees, and that they are infested with everything in the category, from the mysterious vine disease to borers, fungoid diseases and other pests, whose virulence are magnified by the fertile brain of the reporter. Your inspector reads the article, swells up, and pats himself on the back as authority. Has he considered for one moment the great wrong he has done the nnrseryman? No. Later on it may be discovered that the trees, which he said were diseased, were found, when submitted to higher authorities, to be all right. He cannot repair the injury his report has done and, like all evil reports, it takes a long time to explain it away.

What Inspectors Should Do.—The proper course for an inspector to follow in a case of this kind is to correspond with the nurseryman. Call his attention to the condition of his stock. If, on further investigation, it is found to be all right, it should be passed, or, if it is not, then it should either be returned to the nurseryman or destroyed, as he may direct. Men who occupy the position of horticultural commissioners or inspectors should have some practical experience. They need not necessarily be entomologists. They should, however, be practical fruit growers and know a scale bug from a clam. Before finally entering into their duties, they should receive a few practical suggestions as to the pests commonly found in plant life. Such a man with ordinary common sense can be of great benefit to any community. He can advise fruit growers how to prune their trees, and serve them in many other ways, and his service will prove to be of inestimable value to the entire community. A man, who has once acquired experience as horticultural commissioner, through constant study and close observation, should, as long as he gives proper attention to his duties, be retained in office, and not ousted whenever there is a change in the political complexion of a board of supervisors.

The Laws.—The horticultural laws of this State were framed for the purpose of protecting our fruit interests as a whole, and were not enacted for restraining any set of men from conducting their business. They have been grossly misconstrued in many counties of the State and special ordinances have been passed which have for their sole object no other purpose than to hamper a nurseryman in conducting his business. Either the nursery business of this State is, or is not, a legitimate business. It is needless to dwell on this point. All that can be said of it is, that many of the county ordinances, as they exist at present, should be annulled. That they are unconstitutional, there can be no question. The great difficulty which arises is for a nurseryman single handed to fight them. If many more of these obnoxious ordinances are passed, it will finally mean that the business of the nurseryman will be confined to his own particular county. No large nursery business can exist under such conditions, for trees and vines are not only propagated for planting in his section of the State, but also for distribution in other parts of the country and in foreign countries as well. No possible objection can be made in general to our State horticultural law, and if this law were enforced among fruit growers, owners of parks, and in cities where shrubbery and plants are covered with pests, much more good would be accomplished to the community at large than where an inspector devotes all his energy towards retarding the business of a nurseryman. As a class, the nurserymen of the United States exercise more care, are more particular in conducting their business, than any other set of men in the fruit business. In spite of all their efforts to comply with the law for their own interests, if there were no other reasons, measures are enforced against them, from which, unless there is some concerted action on their part, there seems to be no recourse at present.

Objections to County Ordinances.—Every encouragement should be given to the enforcement of the horticultural laws of this or any other State. These laws should deal with all horticultural interests on an even basis. They should not be framed in such a manner as to restrict trade, by making it compulsory on a nurseryman to take out license for several thousand dollars in every county in which he attempts to sell trees. Such laws have been enacted in several counties in California and similar laws are being enacted in other States. The sooner such measures are withdrawn the better it will be for the entire fruit growing community, for such prohibitive measures prevent a nurseryman from entering new fields and selling his stock.

The only good reason which any inspector or commissioner can give for holding up stock and preventing its entry is when he finds it infested with insect pests which are a menace to the fruit interests. To prevent nursery stock entering any particular section because a certain insect pest has been found on trees of the same variety in this district, although the trees which have been shipped are free from this disease, or any other, for that matter, is a gross perversion of justice and should not be permitted.

A Decision.—A decision rendered by H. Z. Austin, Superior Judge of Fresno county, on the subject of special county ordinances and the condemnation of nursery stock, is so apropos on this occasion, I have taken the liberty of quoting it, as it covers the ground in such a concise, clear and forcible manner, it is worthy of being carefully digested. In this particular case Fresno county was compelled to pay for the cuttings destroyed by the horticultural commissioners, and since then no stock has been condemned unless it has been found to be diseased and infested with pests:

"On the 15th day of February, 1901, the Board of Supervisors of the county of Fresno passed an ordinance (No. 97) which, among other things, provided that no person or firm shall import or bring into the county of Fresno any grape vine roots or rootings of any species or variety whatsoever from without the said county of Fresno. The same ordinance also provided that no person or firm should transport or in any wise deliver into the county of Fresno any bud or cutting of any grape vine of any species or variety whatsoever from any portions of the State of California south of the line forming the north boundary line of San Luis Obispo, Kern and San Bernardino counties and from no district within the State of California north of the north boundary line of Alameda, San Joaquin, Calaveras and Alpine counties, with the exception of Sonoma and Napa counties. After this ordinance had been duly passed, Clara L. Pew imported into Fresno county certain grape vine cuttings from Contra Costa county, a county outside of the limits mentioned in the ordinance. The county commissioners seized these cuttings and burned the same, claiming that they had a right to do this under the ordinance. Clara L. Pew thereupon sued the county of Fresno for damages, and the case came before the court on the validity of the ordinance. Judge H. Z. Austin, in passing upon this order, used the following language:

The particular points upon which it is claimed that the ordinance is illegal are because it is in restraint of trade and permits the confiscation of property without due process of law.

I am of the opinion that both of these points are well taken, for reasons briefly stated as follows:

The ordinance purports to prohibit the bringing into, or receiving within, this county of "any grape vine, roots or rootings," absolutely, no matter where grown or produced, and without reference to the question as to whether they are healthy or diseased, or whether their receipt or importation into the county would or would not be detrimental or beneficial to the horticultural interests of the county. The same prohibition is made as to limbs, buds and cuttings not produced within certain designated portions of this State. As to these articles, there is likewise no limitation to the prohibition, and all—healthy as well as diseased—are included in the prohibition. It will not be denied that it is within the power, and it might be said that it is the plain duty, of the board to protect, in all legal ways, the orchards and vineyards from infection by importations of diseased nursery stock, but I can find no authority of law that would justify or allow prohibition of trade in healthy and unobjectionable nursery stock. The vice of the ordinance is that it makes no distinction in this regard, condemns the healthy as well as the diseased. I do not think the power of the board to declare a quarantine against diseased nursery stock outside of this county would be questioned, if done by an ordinance with due regard to the constitution and general laws of the State. In this connection it is but proper to say, however, that any attempt to distend or enlarge the powers granted to county boards of horticultural commissioners by the general laws of the State is exceedingly dangerous. (See Act of March 31, 1897, and also the horticultural quarantine law of March 11, 1899.) These laws, supported by decisions of courts construing them, seem to furnish means for the due and legal accomplishment of everything requisite for the protection of our orchards and vineyards.

I am also of the opinion that the power attempted to be given to the horticultural commission by the ordinance in question to destroy roots, rootings, etc., irrespective of the fact whether they are healthy or diseased, is an unauthorized delegation of power, and amounts to depriving a person of property without due process of law. It attempts to authorize the horticultural commissioners to seize and destroy the property without warrant or process, to condemn it without proof or the observance of any judicial form, and to destroy it without notice of any kind. Such enactment cannot be harmonized with those constitutional guarantees which are supposed to secure every one within the State in his rights of liberty and property. "No man," says Mr. Cooley in his work on constitutional limitations, "can by his misconduct forfeit his property unless steps are taken to have the forfeiture declared in due judicial proceeding. Forfeiture of rights or property cannot be adjudged by legislative act; and confiscation without judicial hearing and judgment, after due notice, would be void, as not due process of law." The most necessary principle of constitutional law is violated in the powers given by the ordinance in question. The determination of questions of this character and the liability of property to seizure and confiscation is a judicial proceeding, and judicial proceedings are required by the constitution to be exercised by courts of justice, and can only be reached through the forms of law, upon a regular hearing. The law of the land in judicial proceedings requires a hearing before condemnation and judgment before destruction of the property of another.

For these reasons I am of the opinion that ordinance No. 97 of the board of supervisors is illegal and void, and furnishes no defense to the acts complained of.

One Law Desirable.—Similar ordinances have been passed in several counties in this State, but the practical workings of such ordinances fail to reach the desired results. Such ordinances may benefit some nurserymen and injure others, but the farmer is always loser, as competition is prevented, and in many cases the best nursery stock excluded. Vine and tree diseases are more or less prevalent everywhere, and the best results can be obtained only by a personal inspection by a competent expert, who will accept or reject each shipment on the merits and not on geographical limits. This is the spirit of the law as appears by the decision of Judge Austin, from which I have already quoted, and I might add that this decision is based upon numerous decisions in this and other States. There should be one State law controlling this subject, and it should be broad enough to protect both nurseryman and farmer, and county boards of supervisors should not be allowed to pass local or special laws. Less politics and more learning will benefit both nurserymen and planters.

The New Assistant Secretary of Agriculture.

Prof. Willet M. Hays has been appointed Assistant Secretary of Agriculture, to succeed the late Col. J. H. Brigham. Prof. Hays was born in Eldora, Iowa, in October, 1859, and is therefore 45 years of age. His early education was obtained in the county schools and later, from 1878 to 1882, he attended Oskaloosa College and Drake University. He graduated from the Iowa Agricultural College in 1885 with the degree of B. S. A. In 1886 he was assistant in agricultural experiments in the Iowa Agricultural College, and in 1887 and 1888 he was associate editor of the Prairie Farmer. Following that he was for a short time the agriculturist at the North Dakota Agricultural College and Experiment Station when it was first organized, and since 1890 he has been connected with the Minnesota Agricultural College and Experiment Station at St. Anthony's Park.

For many years Prof. Hays had general charge of all the farm work of the college and station, but a few years ago he was relieved of the work of animal husbandry in order that he might devote all of his efforts to the special study of field crops in general. He has become widely known for his experiments in plant breeding, which have been, perhaps, the most extensive conducted by any one man in this country. He has done a great deal to work out valuable methods for plant breeding, and his system is now generally followed by workers in this line. Among his originations are two varieties of wheat and a variety of corn, all of which are superior to anything previously devised for the northern latitudes. It is estimated that in the past year fully 300,000 acres of one of his varieties of wheat were grown in Minnesota and the Dakotas at an increased value, approximately, of $1 an acre.

Prof Hays' work has not been confined to cereals, however, but has extended to flax, both for fibre and seed; alfalfa, grasses and a great variety of field crops. He is an inspiring teacher and has been a very popular and successful worker among the farmers of the country.

Agricultural Review.

Butte.

THE ORANGE NEAR OROVILLE.—Oroville Register: Seven thousand five hundred boxes of oranges were picked from twenty-five acres of orange trees in the Chambers orange grove in Palermo this fall. Estimating 100 trees to the acre and we would have three boxes to the tree. Estimating $1 a box and we would have $3 a tree, or $300 an acre.

OLIVES AND ORANGES.—Mr. Taunt of Toronto, Can., lately visited Oroville on a business trip. He was much impressed with the orange and olive groves and said he thought there could be quite a business built up in the sale of olives and olive emulsion. At Rancho Golden Grove all the oranges have been picked and shipped. The olives this season were sold to the Ehmann Olive Co. and many men have been engaged in picking the fruit. A. S. Riehl says that the late frosts touched the ripe olives in Palermo considerably.

Fresno

ORANGE YIELD.—Sanger Herald: The orange shipments from this station since November 1 aggregate about 130 carloads, which is very little in excess of last year's shipments. Besides there were probably twenty carloads sold in small lots, so that a conservative estimate of the entire crop of oranges in Fresno county this season would be 150 carloads. Figuring the oranges as worth $1 per box to the growers, the total valuation of the season's crop is close onto $45,000.

MAMMOTH RADISH.—A large radish has been sent in from John W. Rine's place, near Sanger. This big radish is 24 inches in height, measures 40 inches in circumference; height over all, 54 inches; weight 32 pounds. We challeuge the State to produce a bigger one. Sanger has certainly demonstrated her right to be included in the vegetable belt.

Kings.

ALREADY SOWING WHEAT.—Hanford Sentinel, Dec. 15: H. E. Kerr and Judd Dibble are already at work sowing wheat in the lake country. Mr. Kerr states that they have several teams at work and are now seeding land in the Barbour district. He also said that if tho weather conditions are favorable they expect to sow about 2000 acres of grain in all and much of it will be out in the wet land. If this is done they will operate about six or eight 12-foot drills with their large traction engine.

FEEDING 30,000 SHEEP.—J. W. Barbour has leased several sections of land in the lake country for farming purposes during this coming season and he now has about 30,000 shoep there feeding on about 5000 acres of volunteer wheat that came up after the early rains.

Madera.

WILL RAISE GOATS. — Tribune: George Irish, who lives near Central Station, was here to-day after a carload of Angora goats, with which he proposes to stock his ranch. The animals were shipped to Storey from the coast, and arrived in good condition. Mr. Irish also received two imported bucks, of registered stock, which he purchased at San Jose. They were shipped by express, being too valuable to risk them with the other shipment.

Napa.

BOYS SHOOT A VALUABLE COLT.—Napa special to Sacramento Bee, Dec. 17: A boy named Riordan, in company with two associates, shot and killed a valuable colt belonging to F. W. Colley of Napa late Thursday afternoon. Upon being questioned, the boys stated that while passing through the pasture, about 2 miles from Napa, the horse that was killed and several others took after them, and to save themselves from injury opened fire, killing the colt.

Riverside.

LIGHT ORANGE CROP. — Riverside Press: The orange and lemon crops of southern California show a falling off of from 10% to 40% in the several districts. The total output is estimated at 21,000 cars of oranges and 3100 cars of lemons, as compared with 25,021 cars of oranges and 2878 cars of lemons last season. The districts that will ship more than 1000 carloads are: Riverside 4800, Redlands 2700, Ontario and Cucamonga 1800, Pomona 1500, Highland 1150, Azusa and Glendora 1000, and Vina 1000. Riverside county will ship 950 cars of lemons, San Bernardino county 750 cars, Los Angeles county 750 cars, and Ventura county 100 cars. All the reports agree that the fruit is fully a month earlier than usual.

Sacramento.

A NEW INDUSTRY.—Star: Recently C. P. Grogan of Los Angeles, the largest manufacturer of pickled olives and olive oil in the State, located a factory for the purpose of making pickled olives and olive oil at the old cooperage at 806-812 Second street, this city. Mr. Grogan recently purchased from three hundred to four hundred tons of olives for the purpose of making ripe and green pickles and oil. The pickling department is in charge of Frank Robb, a man of long experience and well known to the olive industry in this end of the State, and the oil-making is looked after by Harry Hunt, who has had several years' experience in making and handling olive oil machinery. Mr. Grogan's output from his Los Angeles factory last season was 43,000 gallons of oil, and 1600 50-gallon barrels of pickles. During the season just commencing here, employment will be given to about 25 people, which number will have to be increased as the business grows. Should this season's business prove satisfactory, it is Mr. Grogan's intention to locate a larger plant at this point permanently, equipped with all the latest improved machinery.

San Benito

SEED FARMS.—New crops will be grown on an extensive scale in the San Juan valley the coming season. Japanese are taking long leases on many places and will grow bird and flower seed under contract for a San Jose firm. At least 1000 acres will be devoted to bird seed, several hundred acres will be seeded to mustard, and the sweet pea acreage will be large. The price per hundred for mustard and bird seed is fixed, under the contract, at $2.25.

San Bernardino

ORANGE CROP SOLD IN ORCHARD.—Sun: The Independent Packing Co., of which Cleghorn Bros. are the principal owners, has bought the crop of the Nels Jacobsen orchard in East Highland for $3300. The crop is one of the finest in this section and is estimated to go about from 3000 to 3500 packed boxes.

NEXT YEAR'S BEETS. — Champion: While the American Beet Sugar Co. is not yet making contracts for its next year's beet crop, applications are being received for contracts in a way that looks encouraging for a full acreage, providing the season is favorable for the production of a crop. Already applications are in for fully one-third of the acreage wanted for the Chino factory, and at this season of the year that is very encouraging. The company will seed about 350 acres of its Chino land this winter to alfalfa, following a policy it has outlined to seed about that acrcage every year. Each year's seeding will be allowed to stand three years, and then a crop of alfalfa will be plowed under and tho land returned to beet planting.

Santa Clara.

SOLVING DRIED FRUIT MARKET PROBLEM.—Sunnyvale special to San Jose Mercury: C. C. Spaulding, president of the Growers' Packing House; G. W. James and R. M. Ackley, directors, have returned from Eastern trip. Mr. James took two cars of dried fruit to Philadelphia. Mr. Spaulding had a lot of peaches, prunes and apricots put up in attractive cartons, which he placed in the hands of canvassing agents, who sold tho fruit directly to the consumer. The freight paid by these gentlemen amounted to $400 for each car. They also paid car fare and other expenses, but feel satisfied with the results.

Shasta.

SAVED BY A HOG.—Free Press: John Hall of the Millville hotel was driving his hogs to pasture across Cow creek. Two of the hogs refused to enter the water. Hall, who was on horseback, rode up to the water's edge, which was sort of an overhanging bank, and urged the porkers to go in. While there the bank caved in and horse and man went headlong into the creek. Hall became tangled in the saddle trappings and one of the hogs became tangled in the outfit. Finally the porker swam ashore and Hall having hold of the stirrup strap to which the hog had become entangled, got out without injury.

COWBELLS ON GUARD.—Chico Record: Some Redding people have adopted a new scheme for preventing thieves from successfully raiding the orange trees in yards about the residences. The recent success of decorating the trees in one yard with cowbells has served to prove the idea a practical one, excepting in windy weather. When the thief plucks the oranges the limbs of the tree are necessarily disturbed and the bells are then heard from. The thief immediately makes his retreat.

Sonoma.

DUCKS AND CHICKENS. — Petaluma Courier: Jacob Killiam of Two Rock road states that he bought ten duck eggs, nine of which were hatched last January. Since then the product has laid 1782 eggs, an average of 198 per duck, and Mr. Killiam has sold $81.97 worth of young ducks in eleven months. From 400 hens and 182 pullets he has obtained 3650 dozen eggs. The pullets commenced laying in June. Many of the duck eggs are large and some have two well-formed shells with white of egg between them. In a few cases the outside shells are soft. Mr. Killiam has cleared over $400 this year from poultry produce.

THIRTY-THREE CHICKENS $90.—Santa Rosa Press-Democrat: William Kelcey was found guilty by Justice J. B. Small at Sonoma of stealing thirty-three choice chickens from the roost of Mrs. Helen Geisselman. The man was sentenced to pay a fine of $90, or to spend a similar number of days in the county jail. Kelcey tried hard to establish his innocence, but was unsuccessful.

Stanislaus.

ANXIOUS TO PLANT BEETS.—Modesto News: P. P. Martin of Toppenish, Wash., who purchased 160 acres of land on the Grayson telephone road, 5 miles from Ceres, last spring, has recently written to George T. McCabe, secretary of the Board of Trade, asking whether his land is adapted to beet culture, and declaring his intention of putting the tract in beets, if the report is favorable and a contract can be made with the sugar company. Mr. Martin is familiar with beet growing in southern California.

IMMENSE TRACT CHANGES HANDS.—J. T. Davis of San Francisco reports the sale of his 3000-acre tract, east of Turlock, to C. N. Whitmore. The consideration is about $120,000. This large body of land is one of the finest in the county, being rich and well watered. The Santa Fe railroad station of Elmwood is on the land. Mr. Whitmore probably intends it for subdivision and colonization.

Tulare

EARLY ORANGE CROP.— Porterville Messenger: J. H. Fry, orange picking contractor, says he never had a better season for orange picking than the present one has been and during his six weeks' stay in this part of the State he did over $2000 worth of business. The orange picking is just beginning in the south and Mr. Fry received urgent appeals from the southern growers before he left to come south immediately. The fruit harvest of this vicinity is so nearly completed, the pickers can be dispensed with and they will not be missed. Think of it! All of the Tulare fruit picked, packed, shipped and a part of the returns already in before the southern California fruit grower is ready for the picking crew.

Ventura.

LIMA BEANS.—Los Angeles Herald: According to advices from the Lima bean country, the situation in that article is one of "freeze out," in the language of a prominent Ventura dealer. From this shipper it is learned that a strong hand is being played by the Lima bean growers, and that they will not concede a point. This is the "freeze out," as the ranchers are desirous of forcing sales at the prices they name. This has caused a temporary lull in Eastern shipments and sales are made only in Los Angeles, San Francisco and other points to meet current needs. It is this point on which the market hinges, as growers say that if they can cause a gradual depletion of stocks at present prices the remainder of the stock will go at full rates, as it is a long time till next October, when the crop of 1905 will have been gathered. The Lima bean stock in Ventura county at the opening of the season was 337,000 sacks. On the 1st inst. there were 317,000 sacks.

EUCALYPTUS HONEY. — Los Angeles Times: H. M. Mendelsohn, a well-known bee man, said to-day that his bees were doing well where they could reach the blue gum groves, as they were working hard and were coming home heavy with honey. The blue gum honey is rather dark, but Mr. Mendelsohn said it was good and would prove marketable to a certain extent. He has about a thousand stands of bees and three-fourths were where they had access to blue gum and were doing pretty well. The bees did not make much honey this year from the Lima bean, as is usually the case, as the hot winds dried the juices in the bean blossoms too quickly.

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The German Savings and Loan Society,

526 CALIFORNIA STREET.

For the half year ending December 31, 1904, a dividend has been declared at the rate of three and one-quarter (3¼) per cent per annum on all deposits, free of taxes, payable on and after Tuesday, January 3, 1905.

GEORGE TOURNY, Secretary.

DIVIDEND NOTICE

San Francisco Savings Union

532 California St., Cor. Webb.

For the half year ending with the 31st of December, 1904, a dividend has been declared at the rate per annum of three and one-half (3½) per cent on term deposits, and three (3) per cent on ordinary deposits, free of taxes, payable on and after Tuesday, January 3, 1905.

LOVELL WHITE, Cashier.

DIVIDEND NOTICE

Mechanics' Savings Bank,

S. W. Cor. Bush and Montgomery Sts.

For the half year ending with December 31, 1904, a dividend has been declared at the rate of three and one-quarter (3¼) per cent per annum on all deposits, free of taxes, payable on and after Tuesday, January 3, 1905. Deposits bear interest from date received.

FREDERICK H. CLARK, Cashier.



Warranted to give satisfaction.

GOMBAULT'S

CAUSTIC BALSAM

A safe, speedy and positive cure for

Curb, Splint, Sweeny, Capped Hock, Strained Tendons, Founder, Wind Puffs, and all lameness from Spavin, Ringbone and other bony tumors. Cures all skin diseases or Parasites, Thrush, Diphtheria. Removes all Bunches from Horses or Cattle.

As a **HUMAN REMEDY** for **Rheumatism, Sprains, Sore Throat,** etc., it is invaluable.

Every bottle of **Caustic Balsam** sold is Warranted to give satisfaction. Price **$1.50** per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars, testimonials, etc. Address

THE LAWRENCE-WILLIAMS COMPANY, Cleveland, Ohio.

DIVIDEND NOTICE

California Safe Deposit and Trust Company,

Cor. California and Montgomery Sts.

For the six months ending December 31, 1904, dividends have been declared on the deposits in the savings department of this company, as follows: On term deposits at the rate of 3 6-10 per cent per annum, and on ordinary deposits at the rate of 3 per cent per annum, free of taxes, and payable on and after Tuesday, January 3, 1905.

J. DALZELL BROWN, Manager.

The Home Circle.

Santa Claus' Sister.

We stood at a crowded counter
  Little Geraldine and I;
There was only a day before Christmas
  And hundreds were waiting to buy.

There were books with most beautiful pictures
  And the strangest, most wonderful toys,
That were brought from over the ocean,
  On purpose for boys and girls.

There were dolls that could waltz and play tennis,
  In dresses of satin and silk;
And horses to wind and set trotting,
  And cows that you really could milk.

But the eyes of the child that stood by me
  Had wandered away from all these,
And the sparkling Christmas angels
  And the miniature Christmas trees,

And were scanning the faces about us—
  The faces that huddled and pressed,
And looked weary and cross with the effort
  Of getting in front of the rest.

When grasping my hand she whispered
  With eager, childish grace,
"Oh, that must be Santa Claus' sister,
  She's got such a Christmas face!"

I looked where her eyes had lighted
  And lo! in a threadbare gown
Stood a queer, little, bent old woman,
  With a face that was wrinkled and brown.

But the eyes that beamed out from it
  Were radiant with love and joy,
As, from 'mong all the beautiful objects
  She selected one poor, cheap toy.

And the worn brown face was illumined
  With a smile of good-will toward men,
That told more plainly than words might
  She was keeping Christmas then.

I glanced at the forms about me;
  There were women in rich attire
Whose unearned gold enabled
  The purchase of each desire.

There were those of delicate feature
  Of gentle breeding and race;
But the queer little bent old woman's
  Was the only Christmas face.

With shame from my own I hastened
  To smooth the impatience and frown,
As I looked at Santa Claus' sister,
  In her faded threadbare gown.

And I blessed both the child and the woman
  For their Christmas sermon sweet,
As I pressed through the throng of shoppers
  And on in the crowded street.

—Julia A. Wolcott in Vick's.

Christmas Bells.

Softly silvern, and golden clear,
The passing bells of the passing year,
  Ring out! ring out! O chimes!
A knell for the rose, and the summer dead,
For the lavish autumn full richly sped.
  And the blossomy April times.

Softly silvern, O Christmas bells!
Your dinsome clamor or falls or swells
  In a chorus richly ringing.
Hark! hark! It swells into upper air,
To join the stave, so fine, so rare,
  The earth, the heavens, are singing.

Richly silvern and high and far,
As the dazzling gleam of a falling star,
  Hark to the angels crying:
"Peace upon earth! Good will to men!"
And the bells from hamlet, plain and glen,
  In high accord replying.

—Martha McCulloch-Williams in Frank Leslie's.

An Xmas Birthday.

Last night, when the yule log sparkled,
  Not even a prowling mouse
Sped over the velvet carpet
  To startle the silent house.
The night wore into the morning—
  And never a prancing hoof
I heard by the warm old chimney,
  Nor a sleigh bell on the roof!
By morn the yule log smoldered,
  And the Christmas stars were gone—
I heard a tiny outcry,
  Like a bird awake at dawn!
Ah, Santa, the unforgetful!—
  Though busy, or sick in bed,
Himself to come unable,
  Had sent the stork instead!

—Lippincott's.

Their Xmas Turkey.

Trying to hide her disappointment, Edith Curry came into the kitchen, sat down wearily, and said: "I've bad news, mother. What do you think Mr. Brown said? He don't want the turkeys—just think of it! After telling us long ago that he would take half a dozen. I told the carpenter he might depend on us for that money some time in December, because we had a sale for our turkeys. It is just too bad."

"I don't see how he came to change his mind," said Mrs. Curry. "He was so positive about wanting them."

"He got them cheaper from somebody else," said Edith. "It just seems as if everything is against us. Just as we think we are going to be all square something turns up and stops it. Once something happened to the pump; then when we were starting all right a cow died; then we hardly got over that until the roof began to leak, and before this bill is paid something will be sure to happen; in fact, it has come now."

"Well, we must not allow ourselves to become despondent," said her mother. "When things look so dull I try to think of the folks over at the Warwick farm. They take things in such a cheerful way that it does me good to think about them, and I would like to be just like them."

"It's easy for them to be cheerful," said Edith; "there's such a lot of them, and they have such a comfortable house; Anna and Ella are so pretty, and have such nice-looking clothes. The boys help, too. You see, they have everything to make them happy."

"Indeed, they have not," answered Mrs. Curry, quickly. "Not long ago Mary Warwick told me that she did not want us to feel hard about that quilt we made because they were not able to buy it. She said, 'We don't often talk over our affairs, but you and I are old neighbors, and I don't want you to feel that we would not help you if we could, so I will just tell you that things have been very discouraging this year. We seem to see trouble on every side.' I was afraid we were all falling into discouragement, so I told her we could not afford to get dull; that we must look on the brightest side, and remember our blessings, and we must hope and work for better times. Cheerfulness is a great help."

At the Warwick farm that dreary December morning the family were all assembled in the kitchen. A letter had come from Carrie, their only married child, saying that she, her husband and children were all coming to spend Christmas at home on the farm, and they were all looking for a good time. She did want some of mother's good mince pies and plum pudding.

"I am afraid we cannnot have a turkey for Christmas," said John Warwick. "Things are pretty close with us just now, and we have not been raising turkeys for a year or so; but it won't seem like Christmas without a turkey."

"Well, you see, father," said Anna, "Carrie does not know we have not been raising turkeys lately. We never told her."

"Oh, well, she don't think much about the farm now," said her father; "she has her own little family to think of."

"Oh, but she does," said her mother, "I know our dear Carrie thinks of her old home often and will be glad to come even with no turkey in prospect."

"I don't see why we can't keep turkeys," said Frank, "I'm sure I could take care of them."

"We will begin again next year," said their father. "It don't seem natural not to have them on the farm." So saying he put on his hat, and went to the barn.

"I wish you were a turkey," he said to a large rooster that came and stood near him. "But I will have to think of some way to get one. I see mother is troubled, and Carrie will be disappointed. She has a right to expect a fuss, I know. I have been saving money to get a cap for cold weather, but I will get the turkey and do without the cap! I will go over to Curry's and tell them to save me a nice large turkey."

Mrs. Warwick went to her room, opening a drawer of her bureau, took out her pocketbook, and began to count the money. "I know father is worried about not having a turkey, and I can do without that shawl I was going to get; so I will have Mrs. Curry save me a turkey."

Anna ran upstairs to her room and took out a little box. "I won't count the money, I know there is enough to buy that lace collar; but I will just run over to Curry's and tell them to save me a turkey."

Ella saw Anna going across the fields toward Curry's. "I wonder what she is going for. I hope she won't stay long, for I have a little plan." She held a little purse in her hand. "No new gloves for me this winter," she said, "but I have some old ones. It's queer how my glove money melts away. The last time I saved, my money went toward buying a parlor carpet, and now my pretty gloves go for a turkey."

Frank and Herbert were standing at the gate talking. "Frank," said Herbert, "let's put our money together and get a turkey for Christmas. You were going to get a knife and I was going to get a cravat. We can do without those things, and mother and father would be so glad. What do you say?"

"It's just the very thing," said Frank. "I'll run over to Curry's and tell them to keep one for us; won't the folks be surprised and won't it be fun?"

"Mother," said Edith Curry, that evening, "did you ever hear anything so strange? It seems as if the whole Warwick family has been here to-day, and five of our turkeys are sold! Why, I feel rich."

"So do I," said her mother, "and I think we will keep that other turkey for ourselves; it will cheer your poor father, I know. And don't you see, Edith, its better not to be cast down when things seem dull."

"I intend never to be dull and gloomy again," said Edith brightly; or, if I am I will just think of turkeys. Now the carpenter can come and get his money; we shall be glad to see him."

Next morning when the people at the Warwick farm were at the breakfast table, a man came to the door. It was their neighbor, Samuel Curry.

"I have brought all the turkeys up to the barn, and if the boys will come along with me I'll show 'em what to do. It's a mighty big lift to get them turkeys all sold, and we thank every one of you. Come along, boys; I am hurrying down to the carpenter's to pay a bill. I won't keep you a minute."

"I don't understand about these turkeys," said the father, anxiously, when the boys were again at the table. "I am afraid we have got ourselves into trouble. I ordered a turkey from the Currys."

"So did I," said his wife.

"So did I," said Anna.

"So did I," said Ella.

"Why, so did we," said the boys.

"But I paid for mine," said the father, gravely.

"So did we," said all the rest. And then the whole Warwick family explained in full.

"Well," said their father, "that is a joke."

"As for the turkeys, we can have the finest for Christmas, and the rest can start our turkey flock," said the mother.

Carrie, her husband and their little family came on Christmas.

"Is it not nice, Guy," she said to her husband again and again. "Don't everybody look lovely, and is it not the nicest old farm in the world?

"Oh, Guy, where is the bag? I have brought something for each of you. Here, dear father, I will begin with you; I got you this woolen cap. Here, mother, dear, is a nice little shawl for you; and, Anna, here is a lace collar I bought you; and, Ella, I bought you a pair of gloves; and here, dear old Frank, is a knife; and, Herbert, I bought you a cravat."

"Carrie, my dear child," said her mother, "if you had asked us what we wanted you could not have pleased us more. You were inspired with your beautiful presents."

They never enjoyed a Christmas dinner so much; and said Carrie: "There never was such a good turkey, never such a good pie, never such a happy Christmas."

"We never had so many blessings and so much to be thankful for," they said at the Warwick farm; and they all said the same at the Curry's.—Maud Russell in National Stockman.

Too Rich for His Blood.

A day or two since a tall, raw-boned, gaunt appearing individual from down in the lower country drove alongside the National, carefully wound the lines of his team around the hub of his front wheel on the off side of his wagon and strolled into the dining room of the cafe. Sizing up the situation carefully he selected a seat near the door from whence escape would be easy. After arranging his chair with considerable noise, he glanced over the room and discovered that other guests had removed their hats. He quickly lifted a battle-scarred felt hat and carefully deposited it under the table and put his foot on it in order to be sure that no one "swiped" it.

A waiter brought him a bill of fare and after standing by some time for his order turned to another guest. The rustle appeared to be hard at work. He studied over the programme for nearly half an hour, then quietly pushed his chair back, arose with a sigh, dug up his faded helmet from under the table and started for the door.

"What's wrong?" asked the waiter, "don't you want any dinner?" thinking the prospective patron was offended at the inattention shown him.

"Too steep fer me, young feller, I can't stand it to pay $28.45 fer a dinner; it's too rich for my blood," and he bolted out the door.

On the table at the place he vacated was found a piece of paper covered with figures. He had added up the price of the various articles listed on the bill of fare, and under the impression that he was to buy the whole outfit, had retreated in dismay.—Telluride, Colo., Journal.

The Kid Knew.

They are telling a good story on a Weiser school ma'am who found a lad in the geography class who was deeply interested in learning the points of the compass. The teacher said:

"You have in front of you the north; on your right, the east; and on your left the west. What have you behind you?" After a moment's reflection the boy exclaimed: "A patch on my pants." To make the information more emphatic, he continued in a shame-faced manner, "I knew you'd see it. I told ma you would."—Ex.

Medicinal Value of Cranberries.

The value of the cranberry as a medicinal agent was clearly recognized by our American aborigines, who used to prepare poultices made from them to extract the venom from wounds made with poisoned arrows, on the same principle as they are now often used as a remedy for erysipelas, applied as a poultice or taken inter-

Bad grocer confesses his badness by selling bad lamp-chimneys.

MACBETH.

You need to know how to manage your lamps to have comfort with them at small cost.
Better read my Index; I send it free.
MACBETH, Pittsburgh.

nally. Eaten raw, cranberries are also known as an excellent remedy for indigestion and biliousness, as they contain certain acid combinations not found in any other fruit, and they are also valued as the best of tonics and appetizers. Added to these sterling qualities comes the latest certified tribute to their efficiency in preventing grip. One family which has thus far been immune from the prevailing epidemic cooks the cranberries in plenty of water and keeps the syrup on hand at all times as a drink. They declare that the acid of the berry is fully as agreeable as lemonade, and most efficacious in preventing bronchial and malarial troubles.

Honors Were Easy.

A young woman but recently married was the victim of a good joke on one of the uptown streets a few days since.

She is extremely youthful looking and at the time she was sweeping the sidewalk she did not look to be over fifteen years old. An old lady came along and smiled sweetly on the young lady, and then said:

"Lovely day, isn't it?"

"Beautiful," was the reply.

"Do you know where I could get a good girl?"

"Not exactly, but there is an employment agency just around the corner."

"Do you like your position here?" asked the old woman.

"Pretty well," was the reply.

"How many in the family?"

"Only one besides me."

"Who is he?"

"My husband."

"Good morning."

"Good morning."

Domestic Hints.

CREAM TOMATO SOUP.—Cream tomato soup can be made with one can of tomatoes and two quarts of water boiled together for one hour, strained through a sieve. To this add one-quarter of a pound of butter, one-half teaspoonful of soda and one quart of boiled milk. Lastly add the pepper and salt. Salt will curdle the new milk, so add it last.

STUFFED CABBAGE.—Scald the cabbage until the bones lose their crispness. Open the heart to the very center. Have nearly a cupful of rice; add a cupful of chopped meat, and season with salt and pepper. Put a teaspoonful of this mixture in the center of the cabbage; fold over the first little leaves, then add another layer of the mixture and fold over the second leaves, and so on. Tie in a piece of cheesecloth and throw in boiling water (with a little salt), simmer gently one hour, remove the cheesecloth, drain dish and pour over a pint of cream sauce or drain butter sauce.

QUINCE JELLY.—Peel and core a peck of quinces; save the cores and peel, of course rejecting any that are worm-eaten. Boil the peels and cores for about an hour in water enough to cook them in one kettle, and the quince pulp in another, with about a cup of water to five pounds of fruit. At the end of an hour's cooking strain the juice off the quince pulp and add it to the juice obtained from the parings. Lay aside the strained pulp for marmalade or for flavoring apple sauce. Boil the juice until it is bright and rich looking, and then add a pound of sugar to every pint of juice, and in twenty minutes the jelly is ready to pour into tumblers or jelly bowls.

STEAMED APPLE DUMPLINGS.—For six dumplings use these proportions: Take one pound of dried flour and mix in it two teaspoonfuls of baking powder; work into this six ounces of finely shredded suet and make into a light dough with water. Choose medium-sized apples, peel and core each, filling the hole left by extracting the core with sugar. Divide the dough into six equal parts, and enclose an apple in each piece. Place a well-scalded and floured cloth in a steamer, arrange the dumplings on it, fold the cloth over carefully, set the lid on the steamer, and cook for an hour and a half. The old-fashioned plan of making a hole in the center of each dumpling and inserting a small piece of butter is worth a trial.

PORK ROLL.—Chop fine (a meat chopper will do the work well and quickly) three pounds raw lean pork and one-fourth pound fat salt pork. Soak a pint of white breadcrumbs in cold water. When soft squeeze very dry, add to the chopped meat with a large onion chopped fine, one tablespoonful chopped parsley, half a teaspoonful each of chopped sage and thyme and half a teaspoonful of black pepper. Mix thoroughly, form into a roll, pressing it closely and compactly together. Have ready about a tablespoonful of fat in a frying pan, dredge the roll thickly with flour and brown it in the fat, turning it until browned nicely on all sides. Then place it in a baking pan and bake in a hot oven for one hour. Baste it every ten minutes with water. Do not turn or disturb the meat after it has been put into the oven. Half an hour before dinner add twelve or fourteen small carrots that have been parboiled in salted boiling water for fifteen minutes. When done place the roll on a platter, surround it with plain boiled maccaroni, dot with the carrots and pour over a nicely seasoned tomato sauce.

LAMBS' TONGUE, WITH ARTICHOKES.—Take for preference corned lambs' or sheep's tongues of a good pink color and boil them not less than two hours, which may be done the evening before they are served, if more convenient. Put them into cold water and peel off the outside and split them lengthwise in two. Having the halves ready in a dish when the roast meat is done, after taking it out lay the tongues in the fat and glaze in the baking pan for about five minutes, then take them out slightly browned and glazed and keep hot. Cook an artichoke for each dish, boiling them, that is to say, like summer cabbage or cauliflower, but cut them in halves instead of quarters; only scoop out the fibrous part before cooking. Drain them well. Serve a half tongue in the small dish and a half artichoke at each end and a spoonful of brown gravy over the vegetable without covering the tongue. Tongue and spinach may be served the same way.

PEACH LAYER CAKE.—Whip to a cream two eggs and one cupful of butter and two cupfuls of sugar; add a little grated nutmeg; pour in one cupful of milk; stir three cupfuls of sifted flour, two heaping teaspoonfuls of baking powder, and then add it, a little at a time, to the other ingredients; stir the whole till it is a perfectly smooth batter, then butter well three good-sized jelly cake tins; divide the batter, pouring one-third in each tin, and bake in rather a quick oven, till the cake is golden brown; turn each cake out on a thickly folded napkin or towel; have ready a dozen medium-sized peaches, and sweetened palatably; put a layer of the cake, when cold, on a large plate, spread it well with a layer of the prepared peaches, then put on a layer of the cake, then the peaches and repeat this process till all are on; cover the top layer of the cake with the peaches and stand in a cool place till ready to serve, then cover the top with whipped cream. This is a delicious dessert.

"Ringlets" are nice, innocent bits of pastry to put in the children's luncheon baskets. Make a piecrust with butter used in excess of lard or other shortening, and sweeten it well. Then roll out thin and cut into inch-wide strips. Take these up and twirl in opposite directions, then lay them one next to the other on a lightly floured tin and bake golden brown. Their length is optional.

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The Best and Most Economical Fertilizer.

Analysis: 10½% Ammonia, 18% Bone Phosphate.

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The J. B. Williams Co., Glastonbury, Ct.

GLENN RANCH,

Glenn County, - - California.

FOR SALE IN SUBDIVISIONS.

This famous and well-known farm, the home of the late Dr. Glenn, "the wheat king," has been surveyed and subdivided. It is offered for sale in any sized government subdivision at remarkably low prices, and in no case, it is believed, exceeding what it is assessed for county and State taxation purposes.

This great ranch runs up and down the west bank of the Sacramento river for 15 miles. It is located in a region that has never lacked an ample rainfall, and no irrigation is required.

The river is navigable at all seasons of the year, and freight and trading boats make regular trips.

The closest personal inspection of the land by proposed purchasers is invited. Parties desiring to look at the land should go to Willows, California, and inquire for P. O. Elbe.

For further particulars and for maps, showing the subdivisions and prices per acre, address personally or by letter,

F. C. LUSK,

Agent of N. D. Rideout, Administrator of the Estate of H. J. Glenn, at Chico, Butte County, California

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51 lbs. best Granulated Cane Sugar, white and dry	$1.00
18 lbs. new fancy head Table Rice, very best	1.00
10 lb. pail Pure Leaf Lard, Rex.	1.00
5 lbs. fancy English Breakfast Uncolored Japan, Spider Leg, Oolong or Ceylon Tea, 75c grd.	2.50
5 lbs. Mocha and Java Coffee, roast or ground, 40c grade	1.50
5 lbs. Pure Baking Powder, Eastern "Cream"	1.50
	$8.50

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330 MARKET ST. S.F.

The Markets.

San Francisco Produce Report.

San Francisco, December 21, 1904.

CHICAGO WHEAT FUTURES.

Wheat futures in Chicago were as follows for the week named, price being for No. 2 Red per bushel:

	May.	July.
Wednesday	$1 08¾@1 10	98 @ 98⅝
Thursday	1 09⅝@1 11	98½@ 99⅛
Friday	1 10⅜@1 11¾	98⅝@ 99⅛
Saturday	1 10⅛@1 11	98 @ 98⅜
Monday	1 10⅝@1 11½	98⅛@ 98⅞
Tuesday	1 10⅛@1 11	97⅝@ 98½

CHICAGO CORN FUTURES.

Prices of futures on No. 2 corn per bushel in Chicago were as follows for the week:

	May.	July.
Wednesday	44⅜@44⅝	44⅝@44¾
Thursday	44⅜@45⅛	45 @45⅝
Friday	45 @45⅜	45½@45¾
Saturday	45 @45¼	45⅜@45½
Monday	45 @45½	45⅛@45⅝
Tuesday	45 @45¼	45½@—

SAN FRANCISCO WHEAT FUTURES.

The range of values in San Francisco for No. 1 White wheat per cental was as follows:

	May, 1905.	Dec., 1905.
Thursday	$1 45¼@1 45⅝	—@—
Friday	1 45¾@1 44¾	$1 32½@1 32
Saturday	—@—	—@—
Monday	1 45 @1 44¼	—@—
Tuesday	1 44 @1 43½	—@—
Wednesday	1 43⅞@1 43¾	—@—

Wheat.

Tho same inactivity as for some time past continues to prevail in the local whoat market, stocks being too light to admit of any extensive trading, and business must necessarily be of a dragging sort until the opening of another season. The wheat acreage in California has been materially increased this wintor and crop prospects up to date are quite favorable in a large portion of the State, but thero is no telling what will develop between this and harvest, or whether the yield will bo good, poor or medium. Speculators are calculating on wheat selling in this market a year from now on tho basis of about $1.32½ for No. 1 shipping, but thoir calculating will not make it so. Of course, if shippers could buy contracts for December, 1905, delivory at $1.32½, that would be the price of wheat to thom for the quantity secured, provided they carried the contracts until they matured, regardless of what spot wheat might be worth at time of delivery. But shippers are moro apt to sell futures against cargoes they may have afloat than thoy are to go long on options. One vessel was added the past week to tho small grain loading fleet now in port, being a French bark, which was chartered for wheat or barley to Europe at 16s 3d, being the lowest figuro of the season.

California Milling	$1 50	@1 60
Cal. No. 1 shipping, alongside	1 40	@1 42½
No. 1 Oregon Club	1 40	@1 50

PRICES OF FUTURES.

During past week the range on options was:
May, 1905, delivery, $1.45¾@1.43¾.
December, 1905, delivery, $1.32@1.32½.

Wednesday, at the forenoon session of Exchange, May, 1905, wheat sold at $1.43⅞@1.43¾; December, 1905, $—@—.

Ocean freights and prices for wheat, as compared with a year ago, are as follows:

	1903-04.	1904-05.
Liv. quotations	-s-d@-s-d	-s-d@-s-d
Freight rates	10½@11¼s	16¼@-s
Local market	$1 35@1 37½	$1 40 @1 45

Flour.

Market is ruling very steady for desirable qualities, offerings of which aro of only moderate volume. Demand at full current figures is not particularly active, however, either on local account or for shipment. The end of the year is almost invariably a quiot period in the flour trade.

Superfine, lower grades	$3 25	@3 50
Superfine, good to choice	3 50	@3 75
Country grades, extras	4 25	@4 50
Choice and extra choice	4 50	@5 00
Fancy brands, jobbing	5 00	@5 25
Oregon, Bakers' extra	3 75	@4 25
Washington, Bakers' extra	3 75	@4 40

Barley.

Thero has been a very strong tone to the market for this ceroal, largoly due to the filling of some orders on Oriental account. Barley is also wanted in considerable quantity for Europe, but the bids of shippers are gonerally lower than holders are willing to accept. Numerous schemes have been resorted to by the buying interest to depress values, but they havo not been attended with any noteworthy success. Stocks of barloy in tho States are not heavy, are largely in strong hands, and it is the exception where desirable lots are being urged to sale. Business on local account was of fair volume. There was not much trading in the speculativo market, but there was a strong tone, with bids and asking prices at a higher range than prevailed the preceding week.

Feed, No. 1 to choice	$1 13¾@1 15	
Feed, fair to good	1 11¼@1 12½	
Brewing, No. 1 to choice	1 17½@1 20	
Chevalier, No. 1 to choice	1 20	@1 25
Chevalier, common to fair	1 05	@1 10

Oats.

Not many oats are coming forward from any quarter, and there is nothing to warrant anticipating any very heavy arrivals during the balance of the current season. Demand is fairly active for both feeding and seeding purposes. The market is firm at prevailing rates for fair to good feed descriptions, and is strong for choice to select qualities, desirable for seed.

White oats, fancy feed	$1 45	@1 50
White, good to choice	1 40	@1 45
White, poor to fair	1 32½@1 37½	
Milling	1 40	@1 50
Black oats	1 30	@1 65
Red, fair to choice	1 25	@1 50

Corn.

New corn of the large varieties is in fair supply, both domestic product and Eastern. Values for Large Yellow and White aro at a lower range than last quoted, and market rather weak for other than strictly choice, only a small proportion of offerings being of this sort. For Small Yellow $1.70@1.75 is asked, but there is no wholesale trading at these figures.

Large White, good to choice	$1 30	@1 40
Large Yellow	1 30	@1 40
Small Yellow	1 60	@1 75
Egyptian White	——	@——
Egyptian Brown	——	@——
Eastern, sacked	1 25	@1 35

Rye.

Supplies aro of rather light proportions. Market is firm, dealers not being disposed to crowd stocks to salo.

Good to choice	$1 42½@1 47½	

Buckwheat.

The only spot stocks are in the hands of millers, representing purchases made in the interior.

Good to choice	$1 75	@2 00

Beans.

Not much doing in beans of any variety, but for good to choice qualities the market has a firm tone, stocks of this description boing of quite moderate proportions in this center. Asking prices for best Pinks were advanced, choice being scarce. Damaged beans are in fairly liberal supply, as compared with the demand for the same, and are selling at less than quotations, poor to fair going at $1@2 per cental. Lima beans are mainly held at Southorn producing points and are said to be mostly under strong control.

Pea, fair to good, 100 lbs	$2 90	@3 10
Small White, good to choice	3 15	@3 30
Large White	2 35	@2 60
Pinks	3 00	@3 50
Bayos, good to choice	2 50	@2 85
Red Kidneys	4 50	@5 00
Reds	4 00	@4 50
Limas, good to choice	4 10	@4 20
Black-eye Beans	2 40	@2 55

Dried Peas.

Market is quiet. For some damp Humboldt Peas $1.25 was bid, and for choice buyers named $2. Millers are fairly stocked with Eastern product.

Green Peas, California	1 50	@2 00
Garbanzos, Large	3 25	@3 50
Garbanzos, Small	3 00	@3 25
Niles	1 25	@1 75

Hops.

No special life is observable in the hop market locally, but in the absence of any very heavy offerings, or any great selling pressure, values appear fairly steady. Recent wholesale transfers of Oregons and Puyallups are reported at 27c., indicating a little botter market than previously quoted sales in same section. The New York Producors' Price Current says: "All markets are reported as absolutely quiet. In New York State no buying of any account is heard of. Still, holders of tho choice grades are firm in their views, being of the opinion that choico States will be wanted after the holidays. Holders of lower grades, however, are showing considerable anxiety and willing to accept 31c. Remaining stocks in growors' hands are now estimated at 10,000 bales in New York State, and 30,000 bales in the three Pacific Coast States. On the local market there has been no trading of any consequence this woek."

California, good to choice, 1904 crop	25	@29

Wool.

The mid-winter holidays are usually a dull period in the wool trade, and this yoar is proving no exception in this regard. Stocks in this center are too light, so far as offerings from first hands are concerned, to admit of wholesale trading. The market presents a generally firm tonc, and prospects are good for coming clip meeting with prompt custom at tolerably stiff figures. Quotations for the time being are necessarily wholly nominal.

SPRING.		
Northern, free	23	@—
Northern, defective	17	@21
Oregon, good to choice	20	@23
Nevada	16	@21
FALL.		
Northern	15	@19
San Joaquin and Southern, free	13	@16
San Joaquin and Southern, defective	9	@11
Southern lambs, as to quality	9	@14

Hay and Straw.

With the Government in the market for about 7000 tons of hay, and prospects of some purchasing being made on Oriental account, the market presents a better tone. There is no likelihood of any shortage, however, and the best that can be hoped for is a clean-up during the next six months. Free purchasing would, of course, cause some hardening in values.

Wheat, good to choice	$13 00	@ 14 00
Wheat and Oat	10 00	@ 13 00
Tame Oat, fair to choice	8 00	@ 13 00
Wild Oat	8 00	@ 10 00
Barley	9 00	@ 11 00
Alfalfa	9 00	@ 11 50
Clover	7 00	@ 9 00
Stock hay	6 00	@ 7 00
Compressed	11 00	@ 14 00
Straw, ₱ bale	40	@ 55

Millstuffs.

Market for Bran and Middlings has continued firm, with good demand and offerings only moderate. Tendency on Rolled Barley was to stiffer prices. Values for Milled Corn wore without quotable change, but market was weak.

Bran, ₱ ton	$19 00	@ 21 00
Middlings	25 00	@ 28 00
Shorts, Oregon	19 00	@ 22 00
Barley, Rolled	24 00	@ 24 50
Cornmeal	31 00	@ 31 50
Cracked Corn	31 50	@ 32 00
Oilcake Meal	31 50	@ 33 00

Seeds.

Alfalfa soed from Utah is offoring in considerable quantity, and with the domand light the market lacks firmness. Of California Alfalfa thero is not much in stock. Mustard Seed is being very steadily held, with supplies only moderate.

Flax	$1 75	@ 2 25
Mustard, Yellow	3 50	@ 4 00
Mustard, Trieste	4 50	@ 5 00
		Per lb.
Alfalfa		12 @13
Canary		6½@ 6¾
Rape		1¾@ 2¼
Hemp		3½@—
Timothy		5 @ 5½

Honey.

Not much doing in this line, the shipping demand being very light and local inquiry only fair. Stocks are by no means heavy, but in the effort to reduce them, concessions are in some instances being granted to buyers.

Extracted, White Liquid	6	@ 6½
Extracted, Light Amber	4½@	5½
Extracted, Amber	3¾@	4¼
Extracted, Dark Amber	3	@ 3½
White Comb, 1-frames	11½@	12½
Amber Comb	9	@11

Beeswax.

Small shipments have been made outward by sea the past week. Spot supplies are of light proportions. Values are ruling steady.

Good to choice, light ₱ lb	29	@30
Dark	27	@28

Live Stock and Meats.

Market has continued moderately firm for good to choice Beof. Some of fancy quality for the Christmas trade brought an advance on quotations. Veal in prime to choice condition sold to fair advantage. Prices for Mutton remained quotably about as last noted, with a tolerably active demand and sales mainly at full current figures. Lamb was in good request and ruling values were well maintained. Demand for Hogs was less active on packing account and market in consequence was easier in tone but not quotably lower.

Allowing for the shrinkage of about 50%, which is exacted in buying cattle on the hoof, live cattle command as much or more per pound than dressed beef, the shrinkage exacted being the slaughterers' profit.

The following quotations for beef and mutton are based on prices realized by slaughterers from wholesale dealers:

Beef, 1st quality, dressed, net ₱ lb	6½@	7
Beef, 2nd quality	5¼@	6
Beef, 3rd quality	4½@	5
Mutton—ewes, 6½@7¼c; wethers	7 @	8
Hogs, hard grain, 140 to 250 lbs	5½@	5¾
Hogs, large, hard, over 250 pounds	4⅝@	4¾
Hogs, small, fat	4¾@	5
Veal, large, ₱ lb	6½@	8
Veal, small, ₱ lb	8 @	9½
Lamb, spring, ₱ lb	8½@	9½

Hides, Skins and Tallow.

There is no lack of inquiry for Hides and market is firm at the quotations. Offerings of Pelts aro meeting as a rulo with prompt sale at unchanged values. Considerable Tallow is going outward, prices remaining quotably as last noted.

Nothing but select hides, clean and trimmed will bring full figures. Culls of all kinds, either from grubs, cuts, hair slips, side brands or murrain, are not always readily placed at the lower figures.

	Sound.	Culls.
Heavy Steers, over 56 lbs	—@11	—@10
Medium Steers, 48 to 56 lbs	—@10	—@ 9
Light Steers, under 48 lbs	9½@10	8½@ 9
Heavy Cow Hides, over 50 lbs	—@10	—@ 9
Light Cow Hides, under 50 lbs	9½@10	8½@ 9
Stags	7 @ 7½	6 @ 6½
Wet Salted Kip	—@10½	—@ 9½
Wet Salted Veal	11 @11½	10 @10½
Wet Salted Calf	11½@12½	10½@11½
Dry Hides	17½@18	16½@17
Dry Kip and Veal, 11 to 16 lbs	—@15	—@13
Dry Calf, under 4 lbs	—@20	—@18
Pelts, long wool, ₱ skin	1 25@1 75	
Pelts, medium, ₱ skin	90@1 10	
Pelts, short wool, ₱ skin	50@ 75	
Pelts, shearling, ₱ skin	15@ 40	
Horse Hides, salted, large prime, each	3 00@—	
Horse Hides, salted, medium	2 50@—	
Horse Hides, salted, small	1 50@—	
Horse Hides, dry, large	1 75@—	
Horse Hides, dry, medium	1 50@—	
Horse Hides, dry, small	1 00@—	
Tallow, good quality	4 @4½	
Tallow, poorer grades	2½@3½	

Bags and Bagging.

The market for Grain Bags is showing a little firmer tone, owing to the prospects for increased demand the coming season.

Bean Bags	$ 4¾@5	
Fruit Sacks, cotton	6½@7½	
Fruit Sacks, jute, as to quality	5¾@7	
Grain Bags, Calcutta, 22x36, spot	5¾@—	
Grain Bags, Calcutta, buyer June-July	6 @6½	
Wool Sacks, 4-lb	32 @—	
Wool Sacks, 3¼ lb	30 @—	

Poultry.

As is usual Christmas week, there was a good demand for choice poultry, Turkeys receiving the preference at moderate figures. Sales of Dressed Turkoys oarly in the week were mainly within range of 20@23c for choice fresh stock, as to size and quantity, birds weighing from ten to fourteen pounds receiving the attention of most buyors. Live Turkeys sold very close to the figures ruling on Dressed. The Chicken market was moderately firm for choice, the most active inquiry being for large and fat fowls. Ducks and Geese in fino condition met with tolerably prompt sale at full prices. Demand for Pigeons was mainly for choice Young, and markot was rather lightly stocked with this sort.

Turkeys, Dressed, choice, ₱ lb	$ 20	@ 23
Turkeys, live gobblers, ₱ lb	18	@ 20
Turkeys, live hens ₱ lb	18	@ 20
Hens, California, ₱ dozen	4 00	@ 4 50
Hens, large	5 50	@ 6 00
Roosters, old	4 00	@ 4 50
Roosters, young (full-grown)	5 50	@ 6 00
Fryers	4 50	@ 5 00
Broilers, large	3 00	@ 4 00
Broilers, small to medium	2 50	@ 3 50
Ducks, old, ₱ dozen	5 00	@ 6 00
Ducks, large young, ₱ dozen	6 00	@ 7 00
Geese, ₱ pair	2 00	@ 2 25
Goslings, ₱ pair	2 25	@ 2 50
Pigeons, old, ₱ dozen	1 00	@ 1 25
Pigeons, young	2 00	@ 2 50

Butter.

In consequence of some shipping demand and a stiffer market lately in Los Angeles than in this center, prices for best qualities of fresh wero advanced. For a few favorite marks going to special custom 26c was exacted. Lower grades of fresh were not in active request, cold storago buttor boing taken in preference by most consumers. Cold storage stocks are still of large volumo.

Creamery, extras, ₱ lb	24	@25
Creamery, firsts	22	@23
Creamery, seconds	21	@22
Dairy, select	23	@—
Dairy, firsts	21	@22
Dairy, seconds	19	@20
Mixed Store	12	@13

Cheese.

Demand is rather light and market is not displaying any special firmness, although in the matter of quotable values there are no declines to record. If stocks were crowded to sale, however, full prices could not be realized.

California, fancy flat, new	11½@12	
California, good to choice	10 @11	
California, fair to good	9½@10	
California, "Young Americas"	10 @12½	
Eastern	12 @15	

Eggs.

While there was some increase in arrivals from the southern part of the State, there were no noteworthy accumulations, and comparatively good figuros wore realized for strictly select, some favorite brands going to special trade at an advance on quotations. Cold storage eggs are being offered freely and at figures fully as favorable to buyers as have been current for some weeks past.

California, select, large, white and fresh	40	@—
California, select, irregular color & size	32½@	37½
California, good to choice store	27	@32
Eastern firsts	23	@26
Eastern seconds	20	@22

Vegetables.

There were increased receipts of fresh vegetables from the southern section, mainly Peas, Tomatoes, Summer Squash and Egg Plant, but demand was good, and for desirable qualities the markot was firm. Onions were in fairly liberal receipt from Orogon, but choice continued to be firmly held.

Beans, Lima, ₱ lb	—	@ —
Beans, String, ₱ lb	8	@ 10
Beans, Wax, ₱ lb	8	@ 10
Cabbage, choice garden, ₱ 100 lbs	60	@ 70
Egg Plant, Los Angeles, ₱ lb	5	@ 8
Garlic, ₱ lb	5	@ 7
Mushrooms, ₱ lb	8	@ 15
Onions, Yellow Danver, ₱ ctl	2 50	@ 2 70
Peas, Green, Los Angeles, ₱ lb	4	@ 6
Peppers, Green, ₱ box	50	@ 85
Rhubarb, ₱ box	50	@ 1 00
Summer Squash, Los Ang., small bx	85	@ 1 00
Tomatoes, box	1 50	@ 2 25

NOTE.—Large boxes are what are known to the trade as "pay boxes," which have to be returned or paid for. They are open top, with hand holes in the ends, and weigh when filled from 50@60 lbs gross. Small boxes are free boxes, about the same as the regular fruit box, weighing when full from 20 to 30 lbs. gross.

Potatoes.

Common qualities of River Burbanks were rather plentiful, but choice wero in light receipt. Quotations remained about as last noted, with markot firm for best stock. Sales of Oregon Burbanks were at much the same range of prices as prevailed the preceding week, with offerings a little heavier. Sweets were in reduced supply and market was firmer.

Early Rose, ₱ cental	1 00	@ 1 20
Salinas Burbanks, ₱ cental	1 10	@ 1 50
River Burbanks, ₱ cental	50	@ 80
River Reds, ₱ cental	65	@ 75
Oregon Burbanks, ₱ cental	1 00	@ 1 25
Sweet Potatoes, ₱ cental	65	@ 85

Fresh Fruits.

Stocks of Apples continue of liberal volume. There were tolerably heavy receipts the current week from the North. Not only are the wholesale depots well filled, but there are large quantities in the cold storage plants. Most of the Apples now here, particularly those from outside sections, are owned by dealers or speculative operators. In quotable values there were no material changes, but the market was by no means firm, and under selling pressure full current figures would not have been obtainable. Lady Apples sold at a wide range, owing to great difference in quality of the fruit and the size of the boxes. Persimmons were not in heavy receipt, neither was the demand for them very brisk, and prices showed no special fluctuation. Strawberries were in moderate receipt for this time of year, mostly Malindas from Watsonville, which sold mainly within range of $2.50@$5.00 per chest for fair to good. Choice would have readily commanded an advance on outside figure above noted. Cranberries from Coos Bay, Oregon, are in fair supply and are being held at $2.25@$3.00 per box.

Apples, fancy, ℔ 50-box	1 25	@	——
Apples, good to choice, 50-lb. bx	75	@	1 00
Apples, fair to good, ℔ box	50	@	75
Apples, Lady, ℔ box	1 00	@	2 00
Persimmons, ℔ regular box	50	@	75
Strawberries, large, ℔ chest	4 00	@	7 00

Dried Fruits.

The market for most kinds of cured and evaporated fruits is ruling quiet, as it is to be expected at the close of the year, but is presenting in the main a decidedly firm tone, stocks of nearly all descriptions being of comparatively small compass. The only noteworthy weakness is on Apples, and this is mainly due to unfavorable conditions on the Atlantic side, rather than to any special excess of offerings here. Medium sizes of Prunes are still in fairly liberal supply, and are not being eagerly sought after at full current rates, but with stocks of Prunes of rather light proportions, the prospects are good for a clean-up of the middle sizes before another season opens and at fully as good prices as have been lately prevailing. Large Prunes are so scarce as not to be quotable in a regular way, and the small sizes are by no means plentiful. The German steamer Menes took 359,270 lbs. Prunes for Germany, sailing on the 17th inst., and on same date the steamer Newport cleared with 89,650 lbs. Prunes for Germany. The steamer Umatilla, clearing for British Columbia, carried 47,770 lbs. dried fruit, including 25,050 lbs. Prunes.

EVAPORATED OR BLEACHED.

Apples, 50-lb boxes, rings, pressed, good to choice	4 @ 4½
Apples, extra choice to fancy, 50-lb boxes	5½@ 6
Apricots, Moorpark	9 @11½
Apricots, Royal, good to choice, ℔ lb	7½@ 8½
Apricots, Royal, fancy	9 @10
Figs, 10-lb box, 1-lb cartons	55 @60
Peaches, unpeeled, good to choice	7¼@ 7¾
Peaches, unpeeled, fancy to extra fancy	8 @ 9
Pears, standard, ℔ lb	6½@ 7
Pears, choice to fancy	8 @10½
Plums, Black, pitted	5½@ 6½
Plums, Red, pitted	7 @ 8½
Plums, Yellow, pitted	6½@ 7½
Prunes, Silver, good to fancy	4 @ 7½
Prunes, in bags, 4 sizes, 1½@1¾c; 40-50s, 4@4¼c; 50-60s, 2½@2¾c; 60-70s, 2@2¼c; 70-80s, 1¾@2c; 80-90s, 1½@1¾c; 90-100s, 1@1¼c; small, ⅞@1c.	

COMMON SUN-DRIED.

Apples, sliced	3½@ 4½
Apples, quartered	3½@ 4½
Figs, White, in bulk	2 @ 2½
Figs, Black	2½@ 4

Raisins.

Not much doing, but market in the main shows healthy condition. Stocks are comparatively light. Loose and seeded raisins are being very steadily held. Layers are being shaded to buyers in some instances, with the desire to close out stocks of the same before the end of the year.

CROP OF 1904.

(Fresno delivery except otherwise specified,)

London Layers, 2-crown, 20-lb box	85	@	——
London Layers, 3-crown, 20-lb box	90	@	95
Fancy Clusters, 4-crown, 20-lb box	——	@1	30
Dehesas, 20-lb box	——	@1	85
Imperials, 20-lb box	2 25	@2	35
2-Crown Standard loose Muscatel		3¼@3¼c	
3-Crown Standard		3¾@4	c
4-Crown Standard		4¾@	—c
Seedless Thompsons		—@4½c	
Seedless Sultanas		—@3	c
Fancy, 16-oz. Seeded		6	c
Choice, 16-oz. Seeded		5	c
Fancy, 12-oz. Seeded		4¾c	
Choice, 12-oz. Seeded		4	c
Bleached Sultanas, Woodland Dist., 50s		4¼@4¾c	
Bleached Thompsons, Woodland Dist., 50s		5½@8	c

Citrus Fruits.

The frosty weather experienced most of the week has been unfavorable for trade in Oranges, although there was considerable buying on account of Christmas. Few of the Oranges on market were well colored and ripe, which also tended to operate against free sales. Navels of common quality went to street hawkers at $1@1.25 per box, with sales of best mainly at $1.75@2. Lemon market was quiet and easy in tone, but quotable values were without change. Limes were in fair supply and slow request at unchanged figures.

Oranges, Navels, ℔ box	1 00	@2	00
Oranges, Seedlings, ℔ box	50	@1	00
Oranges, Cal. Tangerines, half box	50	@1	00
Lemons, California, select, ℔ box	2 50	@	——
Lemons, California, good to choice	1 75	@2	25
Lemons, California, fair to good	1 25	@1	75
Grape Fruit, ℔ box	1 50	@2	50
Limes, Mexican, ℔ box	3 75	@4	25

Nuts.

Almonds are in limited supply and are being in the main steadily held, but the demand at present is slow in the wholesale quarter, most retailers and large consumers being fairly stocked. There are few choice Walnuts offering and poor are not sought after.

Chestnuts, Cal., ℔ lb	7	@	9
Nonpareil Almonds	14	@17	
Ne Plus Ultra Almonds	12	@14	
Languedoc Almonds	9	@11	
Peanuts, fair to prime	6	@	6¼
Cal. Walnuts, No. 1 soft shell	12	@13	
Cal. Walnuts, No. 2 soft shell	10	@11	
Cal. Walnuts, No. 1 hard shell	10	@11	
Cal. Walnuts, No. 2 hard shell	8	@	9

Wine.

There is no evidence of much doing in a wholesale way in this center at present. Most of the desirable dry wines of this year's vintage have already passed out of first hands. For ordinary stock there is no special inquiry. Some growers have been told to hold their wines until after New Years, rack them off and then submit samples. Quotable values remain at 14@17c for fair to choice, with market firm for high-grade wine. The steamer Newport, sailing Dec. 17, carried 91,831 gallons and 13 cases, including 88,259 cases for New York. Receipts of wine at San Francisco last week aggregated 460,050 gallons, and for preceding week were 428,340 gallons.

Produce Receipts.

Receipts and exports of leading cereals and other California products for the past week and for the season to date, as compared with the corresponding time the previous year, are as follows:

FOR THE WEEK.		Since July 1, 1904.	Same time last year.
Flour, ¼ sks	120,406	2,453,758	2,874,181
Wheat, ctls	34,260	1,644,753	1,074,288
Barley, ctls	52,648	2,115,608	3,893,571
Oats, ctls	11,128	588,165	634,836
Corn, ctls	4,790	103,252	75,313
Rye, ctls	182	30,551	33,198
Beans, sks	7,493	402,314	511,203
Potatoes, sks	30,188	626,938	656,308
Onions, sks	3,854	73,719	93,455
Hay, tons	3,075	100,504	101,419
Wool, bales	309	38,626	32,148
Hops, bales	272	28,470	23,711

EXPORTS BY SEA.

FOR THE WEEK.		Since July 1, 1904.	Same time last year.
Flour, ¼ sk	45,584	1,827,544	1,928,760
Wheat, ctls	599	516,307	433,217
Barley, ctls	17,268	1,237,561	3,161,878
Oats, ctls	182	16,128	12,796
Corn, ctls	2,678	57,557	9,199
Beans, sks	730	36,784	20,472
Hay, bales	5,666	77,585	84,238
Wool, lbs	.....	809,532	1,614,268
Hops, lbs	180	217,732	433,646
Honey, cases	17	1,415	3,639
Potatoes, pkgs	4,158	50,912	47,126

New Patents.

DEWEY, STRONG & CO.'S SCIENTIFIC PRESS PATENT AGENCY, 330 Market St., S. F., has official reports of the following U. S. patents issued to Pacific coast inventors:

FOR THE WEEK ENDING DECEMBER 6, 1904.

776,637.—STEAM ENGINE—G. A. Aldrich, S. F.
776,989.—SAWING MACHINE—N. Blair, Buell, Or.
776,990.—GRADING MACHINE—S. B. Bloomer, Seattle, Wash.
776,726.—BELT TIGHTENER—H. E. Clark, S. F.
776,827.—BELT TIGHTENER—H. E. Clark, S. F.
776,727.—WATER GATES—A. J. Collar, Yreka, Cal.
776,649.—CIGAR PACKAGE—Dumont & Sentegnan, Los Angeles, Cal.
776,828.—PRUNING SHEARS—J. Earnhart, Santa Paula, Cal.
776,835.—PUMP—T. R. Goth, S. F.
776,739.—EYEGLASSES—R. R. Hall, S. F.
777,021.—PLIERS—L. Hansen, Seattle, Wash.
776,915.—LOCOMOTIVE—Kelly & Plough, Spokane, Wash.
776,746.—CABINET—D. R. Kinsey, Sedro-Woolley, Wash.
776,599.—PREVENTING RAILWAY HOLDUPS—S. A. Kitchener, Stockton, Cal.
776,790.—TOBACCO POUCH—E. G. Lundquist, Los Angeles, Cal.
777,040.—COUPLING—A. L. Malone, S. F.
776,749.—SUCKER ROD GRAB—O. A. Mann, Oil Center, Cal.
776,536.—TELEGRAPH KEY—McKinsey & Nelson, Susanville, Cal.
776,544.—PENCIL SHARPENER—C. Payne, Los Angeles, Cal.
776,865.—DRILL AND REAMER—L. C. Preston, Weston, Or.
776,799.—DAM—F. H. Reed, Claremont, Cal.
776,802.—GARMENT SUPPORTER—E. J. O. Rother, San Diego, Cal.
776,619.—THRESHER—B. W. Salmon, French Camp, Cal.
776,953.—GREASE CUP—F. Soler, San Bernardino, Cal.
776,764.—BRACKET—G. E. Squire, Bellingham, Wash.
776,700.—SPARKING DEVICE—C. E. Sterne, San Diego, Cal.
776,625.—SPACING RACK—E. A. Stickney, Sacramento, Cal.
776,812.—GROCERY BIN—J. Strine Sr., Downey, Cal.
776,963.—LOG LOADER—E. E. Thomas, Portland, Or.
776,964.—BAND SAW MILL—E. E. Thomas, Portland, Or.
776,968.—FENCE POST—W. L. Vestal, Redlands, Cal.
776,975.—WINDING CABLES—A. F. Wheaton, Menlo, Wash.
776,768.—COIN BOX—J. Williams, Oakland, Cal.
776,879.—WIRE GRIP—J. M. Wolfe, Seattle, Wash.

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8 ACRES IN APRICOTS.
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You may have but one or two symptoms now. May be only a small pain in the back, or a little weakness, or a little sediment, or you may be a little drowsy, or the feet may be a little swollen, or you have to get up several times in the night. It shows these small ways at first, but a little later comes the dropsy, heart trouble, sleepless nights, weakness—then death.

Fulton's Renal Compound is saving 87 per cent. But the longer you wait the more chances you are taking. If you have kidney trouble why not take Fulton's Renal Compound for Brights Disease now and nip it in the bud? Costs no more than simple "kidney trouble" nostrums. No matter how mild it appears, you owe it to your family to stop that dangerous trouble RIGHT NOW.

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AND
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Preparations for the Lewis and Clarke Exposition.

Uncle Sam is now preparing an extensive display for the Lewis and Clarke Exposition, which will be held at Portland, Or., next year, opening June 1 and closing October 15. Construction work on the Government buildings is well under way and the Government board is now arranging for the transfer of the cream of the St. Louis exhibit to Portland.

The United States Government has appropriated $475,000 for its participation at the Western World's Fair, and as the exhibit already on hand (which will be largely supplemented) is worth more than $300,000, its section is equivalent to $800,000.

The Government building which is now in course of construction stands on a peninsula in the center of Guild's lake, a fresh water body 220 acres in extent, which is the natural Grand Basin of the Exposition. The peninsula is reached from the mainland by an ornate bridge, called the Bridge of Nations. This setting for an exposition structure is entirely new, and the view to be had from the peninsula surpasses anything of its kind in exposition history. The building faces the mainland, where the principal exhibition palaces are located on the terraced hillside leading down to the shore of the lake. The foothills covered with tall fir trees make an admirable background for the towers, spires and minarets of the white palaces. An excellent view may be had of the Grand Stairway which leads from Columbia Court, the main plaza of the Exposition, to the lake front, and the beautiful flower gardens which flank it. In the distance, no matter which way one may look, one can gaze on the pictorial sublimeness of the snow-capped peaks of the Cascade range, with Mount Hood and Mount St. Helens most prominent.

A commodious structure to hold the Government Forestry Exhibit will be erected to the right of the main building, while a model life saving station to house a crack crew, which will give exhibition drills during the Fair, will be located on the shore of the lake.

The Government building will be surrounded with beautiful flower gardens and a sunken garden with an artificial lagoon in its center will grace the space in front of the structure. The broad avenue which runs along the lake front is called Roosevelt Avenue, the only street at the Exposition named after a living American.

It is the intention of the Government Board to make the exhibits exceed in interest and variety those shown at St. Louis. There will be fully as much floor space occupied at Portland by Uncle Sam's exhibits as there was at St. Louis.

The Liberal Arts Building, next to the Agricultural Palace—the largest building at the Lewis and Clarke Centennial—has been formally turned over to the State Commission by the contractor. Six other buildings, now practically finished, will be completed during the week. Work on the other exhibition palaces is progressing most favorably, and there is now no question as to the Fair being in readiness on the opening day. Exhibits from St. Louis, now on their way, will reach Portland in a few days and be stored in the completed buildings until it is time to install them in their permanent quarters.

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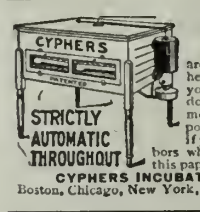
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Sharples Co. Chicago, Illinois — P. M. Sharples West Chester, Pa.

THE STOCK YARD.

Experiments in Steer Feeding.

The Texas Agricultural Experiment Station has about ready for distribution Bulletin No. 76, prepared by John A. Craig and F. R. Marshall of the Department of Animal Husbandry on "Experiments in Steer Feeding." Among the results of two seasons' work with 118 head of steers are the following:

1. Rice bran added to a ration of cottonseed meal and hulls, in two out of three trials, gave an increased rate of gain at a lower cost.

2. Rice polish added to a ration of cottonseed meal and hulls slightly increased the rate of gain at the same cost.

3. Rice hulls were not satisfactory as a substitute for cottonseed hulls, as the steers did not relish them.

4. Rice hulls fed with cottonseed meal, rice bran and molasses were unsatisfactory, as the steers could not be induced to eat a fair ration.

5. Sorghum hay in a ration of cottonseed meal and rice bran gave equal results in gain to cottonseed hulls. as one of the former results equal to 1.02 pounds of cottonseed hulls. The daily rate of gain per head was slightly in favor of the hulls, being 2.98 pounds as against 2.35 pounds in the instance of the sorghum.

6. Cow pea hay was not as satisfactory as cottonseed hulls in a ration of rice bran and cottonseed meal, as the daily rate of gain per head was 2.98 pounds in the instance of the lot receiving hulls and 2.3 pounds in the trial with cow pea hay. A pound of cow pea hay was equalled by .94 of a pound of hulls.

7. Peanut hay was very unsatisfactorily fed with rice bran and cottonseed meal, owing to the fact that it was very nutritive food, being too similar to cottonseed meal in composition to mix well with it.

8. Alfalfa hay was a very unsatisfactory addition to rice bran and cottonseed meal ration, for the reason that it was also rich in those constituents which are abundant in cottonseed meal, making the ration too nitrogenous.

9. Cottonseed meal and hulls make the most generally fed ration in the cotton belt, while corn and alfalfa hay are considered the best combination in the corn belt. A comparison of these rations becomes interesting from these facts. The steers receiving the ration of cottonseed meal and hulls ate daily per head 5.7 pounds of cottonseed meal and 22.4 pounds of hulls, and gained 2.21 pounds. With the cottonseed meal at $20 per ton and the hulls at $4 per ton, the feed cost of one pound of gain was 4 6 cents.

The steers receiving the alfalfa and corn and cob meal ate daily per head 11 pounds of corn and cob meal and 16.9 pounds of alfalfa, and gained 2.53 pounds. With the corn and cob meal at 40 cents per bushel and the alfalfa at $5 per ton, the feed cost of one pound of gain was 4.1 cents. It will be seen from this that the cost of fattening steers under the very best circumstances for securing the most economical rations is very similar.

10. Molasses added to a ration consisting of cottonseed meal and hulls resulted in a greater and cheaper gain from those steers receiving it, as they gained 3.11 pounds per head daily, while those not receiving it gained 2.59 pounds.

11. Yearling steers in comparison with two-year-old steers on rations of cottonseed meal and hulls made about the same gain at a little cheaper cost. The two-year-old steers gained 2.59 pounds per head daily and the yearlings 2.21 pounds.

12. In feeding steers on pasture it was found that a corn and cottonseed ration gave better returns than corn alone. The substitution of 3075 pounds of cottonseed meal for 3438 pounds of corn gave an increased gain of 831 pounds on the lot of nineteen head.

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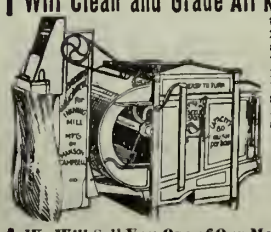
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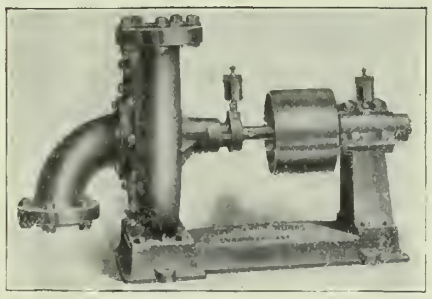
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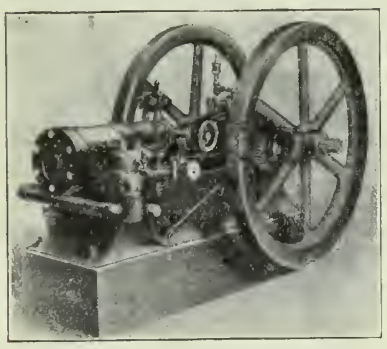
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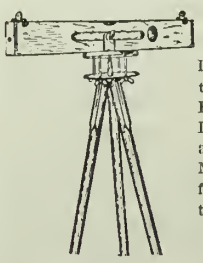
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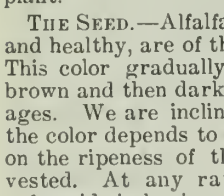
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THE FIELD.

Impurities in Alfalfa Seed.

Mr. O. M. Ball, Botanist of the Texas Experiment Station, has in preparation a bulletin upon "Impurities in Alfalfa Seed," and as much seed from other States is being sold here, Mr. Ball's investigations are of local interest. Alfalfa seed is adulterated largely in this country, and it has been shown by the Department of Agriculture at Washington that large quantities of spurious seed are annually imported from abroad, practically all of which is used for the purpose of adulteration.

A given sample of seed may show the presence of impurities of various kinds, such as dead seed, chaff, sand or gravel, and, most important of all, foreign seeds.

The seeds used in adulteration are, as a rule, those of plants belonging to the same family as alfalfa but which have not so high a food value as the latter and which are cheaper. When the farmer sows such impure seed, he does not get what he demanded, it is true, yet his loss is not a total one, since the majority of the foreign plants are forage plants of some value. The chief source of danger to the farmer arises from the fact that much of the seeds on the market are grown in parts affected by weed pests, and the seeds of these are thereby distributed and find a foothold from which they are very hard to dislodge.

These facts show the necessity for care in the selection of seed, and the need of instruction as to the nature and appearance of the alfalfa seed and plant.

The Seed.—Alfalfa seed, when living and healthy, are of the light olive color. This color gradually passes into light brown and then dark brown as the seed ages. We are inclined to believe that the color depends to a large extent upon the ripeness of the seed when harvested. At any rate, color is a very safe guide in buying, since all old seed which have lost their vitality are brown, though not all brown seed are dead. The size varies somewhat, depending upon the variety, but is generally slightly more than one-twelfth of an inch in length by one-half to three-quarters as wide. The form is that of the kidney bean, and the best seed are well rounded and full. Shriveled seed have a very low germinating power.

Adulteration. — Yellow trefoil is very largely used as an adulterant of alfalfa. The seed of trefoil is of a darker green than alfalfa and not so distinctly kidney-shaped. It is often very difficult to distinguish between the two, since many variations occur in form, size and color in both.

Burr clover seed is also used as an adulterant. The seeds of the various burr clovers are very much like that of alfalfa, and hence it is very difficult even for the expert to determine the character of the seed with accuracy until the seedlings have grown. Burr clover seeds are slightly larger and of a lighter color than those of alfalfa.

The commonest weeds found growing in alfalfa are apparently the white and yellow melilots. Both plants are of value as forage, but do not equal alfalfa. The seed are much like alfalfa in color, but in mass are more golden, and they are not quite so long and are broader in proportion and are not kidney-shaped. It is easy to distinguish these plants from alfalfa by the shape of the leaf. But a very sure and easy way to detect the difference is to dry the plant. Both the white and yellow melilots are highly scented when dry. Alfalfa has the ordinary odor of dry hay.

Dodder.—Too great stress can not be laid upon the danger of infecting alfalfa fields with this most pernicious weed. It may be readily recognized when growing by its orange-colored threads, which spread over the tops of alfalfa and clover, forming dense mats and killing the host plant entirely. The seed are very small and inconspicuous, and therefore likely to be overlooked in inspecting alfalfa seed. Dodder seed is about one-twenty-fifth of an inch long, somewhat rounded and slightly convex on one face. The color varies from greenish gray to yellow and brown.

THE VETERINARIAN.

Answers to Inquiries.

By Dr. E. J. Creely, Dean of San Francisco Veterinary College, 510 Golden Gate Avenue, S. F.

SPASMODIC COLIC.

To the Editor:—What is the best remedy for the relief and cure of spasmodic colic and enteritis combined? We have just lost a horse from those troubles.

What remedy should be applied to relieve a hard or caked udder on a cow after calving, and what is the cause of it? —Subscriber, Sonoma.

The following is a recipe for spasmodic colic:

Sulphuric ether, 1 oz.
Laudanum, 1 oz.
Sweet spirits nitre, 2 ozs.
Oil sassafras, ½ drachm.
Raw linseed oil, 12 ozs.
Mix and give all at one dose.

For caked udder use this:

Olive oil, 2 ozs.
Ammonia water, 1 oz.
Tinct. iodine, 1 drachm.
Mix and apply two times daily after hot water bathing.

CHRONIC INDIGESTION.

To the Editor:—I have a young mare, 5 years old, who is acting strangely lately. She doesn't seem to have much appetite and is falling off in flesh; she paws the floor occasionally, has hardly anything to do, is in the pasture daily, and I gave her last week some Stand. worm powder, but I couldn't notice any worms passing. She has a warm stable and the best of care.—C. J. S., Folsom.

This animal requires immediate attention, as it is only a question of time until a fatal attack of enteritis, or spasmodic colic, occurs. Call upon Drs Fox, McCollum or Megowan of Sacramento and have a projecting molar removed, after which give the following powder:

Soda bicarbonate, 4 ozs.
Bismuth subnitrate, ½ oz.
Iron citrate, 3 ozs.
Nux vomica, 1 oz.
Mix into twelve powders; give one morning, one noon and one at night in dry rolled oats.

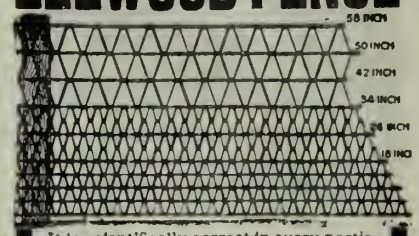
W. S. Sullivan of Agnews, who won a prize for pullets at the St. Louis Exposition, has scored another success at the Alameda poultry show, where he made a great record in winning first cock; first, second and third cockerel; first, second and third hen; first, second, third, fourth and fifth pullet, and first and second pen —an unequaled record.

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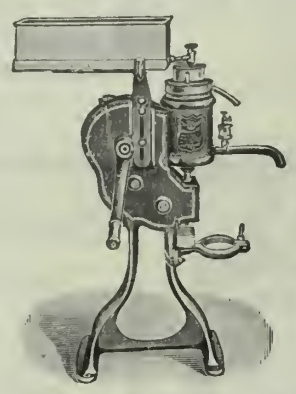
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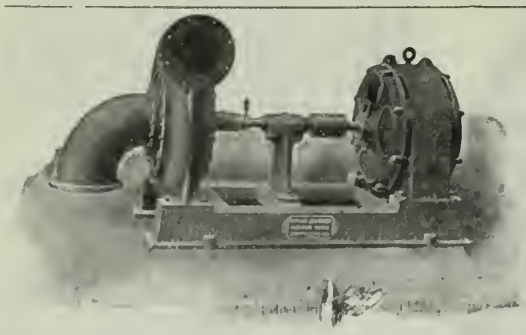
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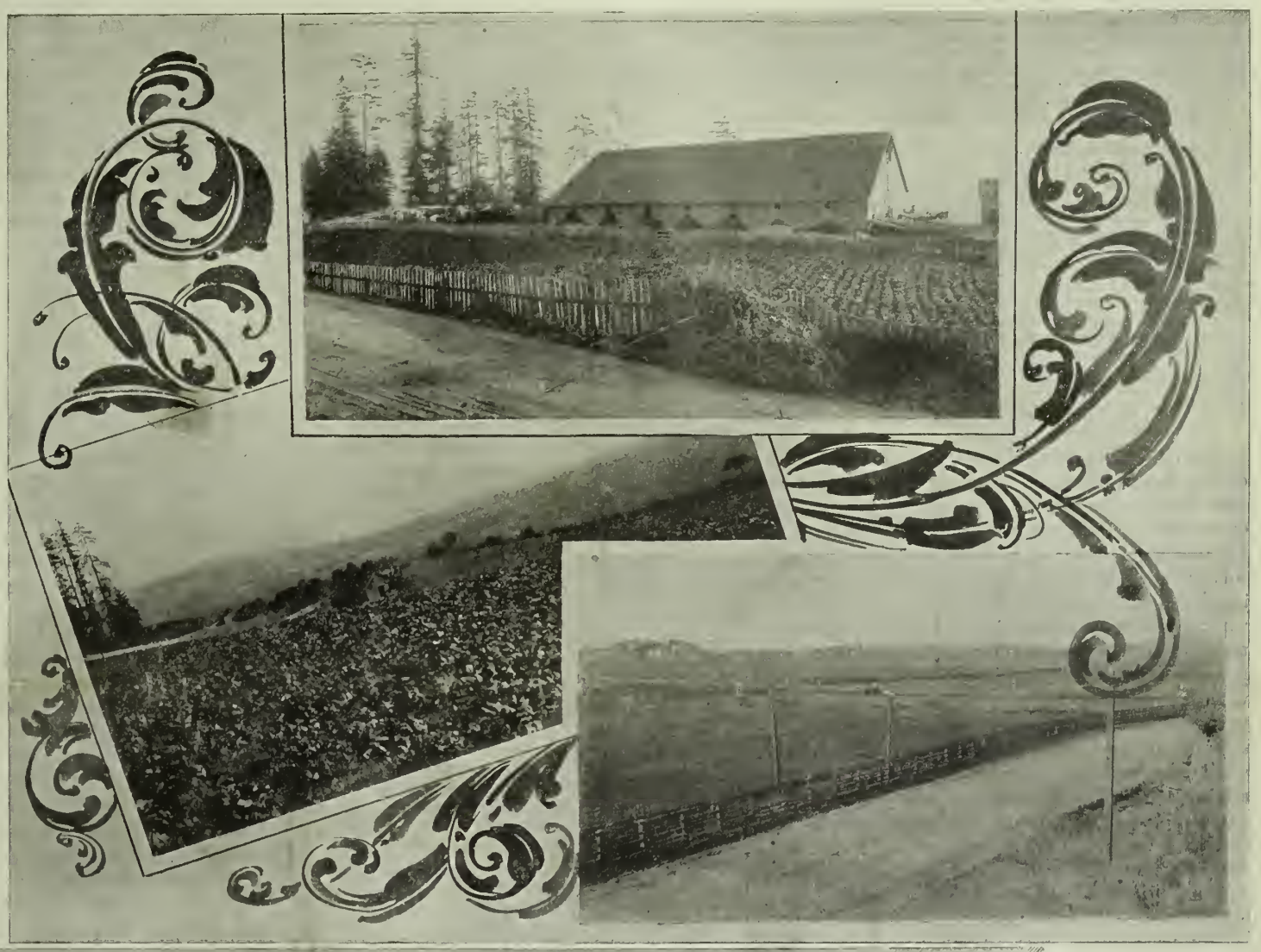
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THE
PACIFIC RURAL PRESS
AND CALIFORNIA FRUIT BULLETIN.

Vol. LXVIII. No. 27. SAN FRANCISCO, SATURDAY, DECEMBER 31, 1904. THIRTY-FOURTH YEAR. Office, 330 Market St.

Humboldt Farming.

We have had much of the picturesque of Humboldt county and still there is more to follow, but we stop a moment to show the richness of the vast area of flat farming lands which the county possesses in the river bottoms and on reclaimed lands around the bay. Our pictures which are reproduced by permission from the Humboldt County Souvenir show the vastness of this kind of land and its use for dairy purposes. The large picture shows the abundance of adjacent water, the expanse of rich land north of Eureka and the simple buildings which are safe and satisfactory for dairy farming in this mild climate. The group of pictures show scenes around Arcata, including the Arcata bottom. The fields are suggestive of the fact that the Humboldt county dairyman believes in growing many things for his cows and the moist cool summer climate enables him to grow many things which do not succeed as well in the hot, dry air of the interior valleys. Humboldt county coast regions are a natural cow paradise both because of the rainfall and the fog grown herbage, both wild and cultivated, and thereby becomes the sharpest rival of the interior irrigated plains with their rich cover of alfalfa. The Humboldt county dairyman counts his side of the question the better, and certainly by the aggregate of his butter product and by the number of cows he can carry on a given acreage the year around he still leads the State. Of course, he does this by growing roots and other crops for the cows, and in this he is steadily supported by the ample moisture which comes so naturally.





Scenes on Dairy Farms in Humboldt County—the Rich, Low Lands Near Eureka and Arcata.

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The Week.

This issue closes the 68th volume and the 34th year of the PACIFIC RURAL PRESS. It is a readers' volume, because the year is dying slowly and waits to catch another Saturday at its 31st day—consequently the publishers have to give twenty-seven issues in this half year, while the calculation is that twenty-six issues shall fill their obligation. However, the extra work is cheerfully accomplished. We are quite content to give a little more than the bond when it is possible to do so. In fact, we are much gratified with the progress which our journal is making in public favor and the honorable position in the leadership of the agricultural press of the Pacific slope which is generally accorded to us. This is said in no spirit of boasting; we simply wish to return thanks for the esteem in which our work is held and to claim that we are actuated by an earnest desire to better merit the distinction in the future. California is growing rapidly and California agriculture is becoming more rational and intelligent. California is developing policies and methods which are not only to be valuable here but helpful everywhere. To be faithful, then, to the facts of this advance, to understand the principles upon which it proceeds and to assist all interests to better their individual affairs thereby—these are our convictions and rules for action, and we shall keep at the head in the future as our resources will permit. The New Year, then, will be as the old, but more abundant, and, as our ambition is, so we trust will be the fortunes of our readers—every one.

Though it is mid-holiday week, the situation in food supplies is such that cessation of trade does not beget dullness. Wheat is firm. In Chicago futures have been going up all the week and May wheat has gained 4 cents per bushel since our last; futures here have been quieter and have held strong. Spot wheat here has but little trading at the moment. One shipload of wheat has gone to Europe; there are no local charters except to go north for the Orient trade. Barley is unchanged and firm. Corn is weak, but the other minor cereals are in good shape. There is little doing in beans, but all good lots are steadily held. Bran and middlings are unchanged and steady. Hay is dull, unchanged and of slow movement. Meats are holding their own; hogs are in lighter receipt, but packers are making light drafts. Butter has receded about 1 cent since our last report and is easier; cheese is quiet and steady, but eggs are barely so—large holders are said to be making some concessions. All good poultry is strong, except broilers, which seem to be in large supply for this time of the year and are less sought for. Turkeys are scarce and high. Choice potatoes are strong; common are weak. Onions are lower. Fancy apples are doing better. Oranges are plentiful and mostly common; fancy Navels do fairly. Lemons and limes are quiet and easy at old figures; it is still too cold for a full demand. Dried fruits are all firm, except apples, which are still weak. There is not much wholesale trading in dried fruits, but a fair movement continues; three steamers have taken an aggregate of 315,000 pounds of dried fruits, mostly prunes for Germany. There seems more hope for small prunes. Little is doing in almonds, but choice walnuts are looking higher. Honey is very slow; stocks are scant, but the demand is scantier. Nothing is doing here in hops, though at the north bids above 30 cents are reported. A shipment of 36,000 pounds has gone to Australia. Wool is firm; 20,000 pounds have gone by steamer to New York. All distant markets are strong for wool.

A praiseworthy effort is being made to persuade the National Wool Growers and Live Stock Association to hold its convention of 1906 in California. The Association will hold its next convention in Denver, Colo., beginning January 9, 1905, and will be attended by about 2500 delegates, representing every State in the Union, as well as Canada, British Columbia, Mexico and the Hawaiian Islands. The San Jose people began the effort to bring the Association to California last year and propose to keep at it. They hold that it is of the utmost importance to win the convention for California, as the Association is growing in national importance each year. We trust the undertaking will succeed. California needs continually an enlivening of the live stock industries.

To see the Sacramento and San Joaquin rivers running deep and clear between well-defined banks is a thing a Californian should hope to live to see. The common of Eastern river engineers has reported that it can be done at an outlay of $24,000,000. Governor Pardee, who approves their report, holds that the figure named is not one that should be considered excessive to those owning the land to be benefited. He says:

The estimated cost per acre will average $24. But, by the expenditure of an average of $24 per acre, this land will be raised in value from a present average of $20 per acre (a high present value) to $100 per acre, which is a low future value. If the cost of $24 per acre were to be thrown upon the land in one, even in two or three years, it might be considered, at first thought, almost prohibitive. As a matter of fact it would not be. But when it is understood that a great system of reclamation such as this will require several years to be perfected—at least five years, more likely ten—it becomes at once apparent that even $24 per acre spread over, say, six to ten years, is not an excessive nor even a seriously burdensome financial matter to undertake. Three or four dollars per acre per annum for six or eight years to reclaim land now worth $20 per acre and make it worth $100 per acre is a pretty good investment, I take it.

The interest of the rest of the State in the reclamation of these lands and the elevation of their assessed valuation is great. The subject is of the widest public importance.

It is enough to make a dog laugh to hear about the trouble the State is having in paying for those coyote scalps of historic fame. The State Controller, according to the Sacramento Union, has discovered that several thousands of dollars' worth of coyote claims have been presented for payment in duplicate form, having been adjudged valid in different courts on actions instituted by different District Attorneys, and as their judgments have been approved by the Supreme Court and the time of appeal has expired, it is held that they have become legal claims against the State.

Readers of the PACIFIC RURAL PRESS who have known Luther Burbank's work for the last twenty-five years and more will be gratified that the greatest institution in the world for the promotion of scientific research will provide that he shall proceed henceforth without the burden of self-support which he has carried so bravely hitherto. It is announced that the Carnegie Institution will grant him $10,000 per year for a decade to come. This is significant not only of honor to Mr. Burbank, but it is a recognition of horticulture as a science such as the world has never seen. Mr. Burbank has, then, not only honored himself, but has honored his art as no other man ever did.

QUERIES AND REPLIES.

Japanese Persimmons.

TO THE EDITOR:—I will be much obliged if you can answer the following questions for me with regard to the Japanese persimmon: What are the best varieties to plant for eating fresh and for drying? In what part of California do they do best and what sort of soil and climate is best suited to them? What weight of fruit is an average crop per tree? How far apart should they be planted? Do they require much water? Will they bear shipping to the East? Are they easily dried, and what process is necessary to dry them? Can you refer me to any large grower of this fruit?—ENQUIRER, Charter Oak.

The Japanese persimmon has proved to be a satisfactory grower and bearer in most parts of the State, but it has not proved profitable except in very small amounts. The Asiatic population of San Francisco use a small quantity at profitable prices, but the demand is too limited to warrant extension of present planting. Shipments of the handsome fruit to the East for the holiday season, from which much was expected twenty years ago, has never realized anything like what was expected. Two or three carloads a year is all that an Eastern season will take at a profit. As for dried persimmons, they are too devoid of flavor to appeal to the American palate. They are simply bland, sickish, sweet and do not compare at all with our American dried fruits, which have pronounced characteristic flavors which are so delightful to our people. Again, the fruit ripens at a time of the year—late in the fall and early winter—when drying in the open air is not practicable, and to handle them in driers involves an expense which is not justified by the demand, for the reason stated above. The tree is usually a small one and can be grown at 15 feet distance and still have plenty of room for its large growth of handsome fruit. They fruit without irrigation on good fruit soil with 20 inches of rainfall; in the drier parts of the State, of course, the trees require irrigation.

There is no very large grower of persimmons, nor is there any reason to be. Mr. Ellwood Cooper of Santa Barbara has given very much attention to this fruit, has shipped it in attractive packages with statement as to the way in which it should be used, but concludes, we believe, that demand for it is quite limited. At the East and South the Japanese varieties are, in spite of their beauty, considered inferior to the common American persimmon, which, although inferior in appearance, has a more desirable flavor. Some efforts have been made for the enlargement of the American persimmon in some of the Southern States, but even there the fruit seems to meet but a limited demand; in fact, the persimmon in the United States is rather a small fruit, from all points of view.

Bearing of the Navel Orange.

TO THE EDITOR:—Kindly inform me at what age the Navel orange tree will begin producing fruit under conditions existing in California. At what age does it reach its maximum productiveness, and at what age does it begin to decrease in productiveness, or to produce an inferior quality of fruit? I would be pleased to obtain the same information in regard to pear and peach trees.—READER, New Mexico.

The budded Navel orange tree usually has two or three years of age on the root and one year more with the new top, at the time it is planted out. It begins to bear almost immediately, and during the third year in the orchard will produce quite an amount of fruit. We cannot tell at what age it will reach its maximum productiveness, nor can we tell at what age it will decline. These things are all beyond the limit of California experience, because, although we do have trees becoming less profitable and satisfactory, and something like a habit of producing less fancy grade as age advances, it is believed these are due to impoverishment of the soil, or in the water supply, or lack in the proper care of the tree, and not to longevity in the tree. With all conditions favorable, the orange is a long lived and evenly productive tree. California experience does not qualify us to set limits upon it under such conditions. The same thing is true, though not to the same degree, with reference to peach and pear trees, which are manifestly shorter lived, owing to the aging of the tree, etc. But this matter, too, cannot be definitely made out in California experience, be-

cause there are orchards of both peaches and pears over forty years of age and still valuable and productive. There is an impression, however, that with fairly good treatment the peach is good for about twelve years and the pear for twice as long, supposing, of course, that both are on good soil, properly pruned and protected from insects and otherwise given a fair chance.

Working Over Citrus Trees.

TO THE EDITOR:—Will you tell me whether it would be practicable or not to bud over 12-year-old lemon trees to oranges? I own a grove at Ontario, now twelve years of age. Lemons do not pay, and lemon groves do not sell. One-half of the grove nearly was in Villa Francas and did not bear very well, so three years ago I had that portion budded to Eurekas, and the whole grove is now in that variety. If it will be practicable to bud to oranges, what variety would do best at Ontario, considering the soil and the original tree?—OWNER, Connecticut.

It is practicable to bud over old lemon trees to oranges and, in fact, it has been done by the hundreds of acres, especially in the interior citrus districts, where, after the lemons attained considerable age, it has been thought that oranges would be more satisfactory. There is, however, one question and that is whether your lemon trees are on orange roots. They probably are because for more than twelve years it has been the practice to grow lemon trees on orange roots rather than on lemon roots—because the orange root gives a finer textured fruit than does the lemon root, which is disposed to overgrow and for that reason has been generally abandoned. I think you would have no difficulty in finding in the district about Ontario men very skillful in budding or grafting over trees, and that you could get satisfactory service from them. As for variety, nothing on the whole seems safer or more desirable than the Washington Navel. There has recently been a good deal of interest in the Valencia Late, but our impression is that the acreage of late oranges has now become quite sufficient and that the safest investment is in the Washington Navel.

Teosinte and Other Forage Plants.

TO THE EDITOR:—I have recently taken up land here and having little experience in the agricultural line I would appreciate advice. My land lays in the foothills. I heard of a species of plant called teosinte; kindly let me know if it will thrive in this locality. I would like the same information about Jersey and German dwarf kale, alsike and sapling clovers. I have plenty of water.—SETTLER, Lake county.

Teosinte is a corn-like plant which can only be grown during the frostless season, as it is even more tender than Indian corn. It is also a plant of tropical countries where there is moisture in the air. It is not at all adapted to California except, perhaps, for summer growth on moist lands. Indian corn is far better. Jersey and German kale are, as a rule, good growers in the coast district of California, but of less value in the interior. They are quite hardy and are being used successfully as forage for fowls and hogs in some localities. You can grow them in your district and probably get very satisfactory results by the use of water for irrigation during the dry season. The clovers which you mention are not worth growing in any place where you can grow either alfalfa or Eastern red clover, and both of these you can do well with irrigation.

Timothy in California.

TO THE EDITOR:—I should be pleased to get some information in regard to timothy. If same can be grown with any success in California? How many crops can you cut? When is proper time for planting, and how to properly plant? How does it compare with alfalfa as a food product? And any other information you can give on timothy will be thankfully received.—INVESTIGATOR, Palo Alto.

Timothy is only successfully grown in western Washington and Oregon and in the extreme northern counties of California adjacent thereto. In other parts of California it is not successful nor trustworthy. It will not maintain its life during our dry season, even if there should be a certain amount of moisture remaining in the soil, nor is it successful with irrigation. The grass has a bulbous root at the surface of the ground, which is destroyed by the heat; even in some places of the East, as we remember, similar injury was sometimes caused by the short drouths of the Eastern summer. In the coast districts, where possibly the heat might not be sufficient to do this injury, the plant fails by the death of the fibrous roots because of the deep drying out of the soil during the dry season. For this reason the plant is not at all adapted to California, except in the small district mentioned, and there is no basis upon which to answer the questions which you ask.

Irrigating Alfalfa.

TO THE EDITOR:—Which is the best way in this part of the State of irrigating alfalfa? I intend putting out a small acreage this coming spring, and did intend to prepare the land to irrigate by flooding, as all the literature I have ever read on the subject advises, and in the State in which I have recently resided (Utah) that method is, as far as my observation goes, the usual one, but some of the older residents here advise me by all means to use the furrow system, saying that by flooding the hot sun will scald out the young plants following flooding, but by the furrow system that will not occur. Now which do you advise me to do?—FARMER, Oroville.

It depends upon circumstances. Where the water seeps well laterally and where the grade is so sharp that contour checks are too narrow to work well and the square check requires the shifting of too much soil and the levees have to be too steep and high to work over with a mower, the furrow system may be preferable. On the whole, however, with the light soil which suits alfalfa best and with the slight grade of most land which is chosen for alfalfa, the contour check system is best and is almost universally adopted. On such land the water will quickly disappear and loss by scalding is little. You should, however, be guided considerably by what experienced and intelligent people tell you, if you are sure they have actually tried both methods. Even on heavy soils, burning can be largely avoided by flooding after the hottest part of the day has passed or by irrigating before mowing rather than afterwards.

Burbank's Hybrid Walnut.

TO THE EDITOR:—In an Eastern paper I read the statement that Luther Burbank has produced a nut bearing tree that makes a more rapid growth than any other in the temperate clime. Can you inform me what the tree is and where it may be procured? Also, will you inform me as to the best time to transplant eucalyptus trees, grown this year from seed, 3 to 5 feet, and whether to cut back when transplanting?—FARMER, Fresno county.

The rapid-growing nut tree, originated by Mr. Luther Burbank, is a cross between the English and California Black walnut, an exceedingly vigorous and free-growing tree, which Mr. Burbank calculates makes actually more lineal growth in a certain length of time than do any of the eucalypts. The nut is not of great value, although it is an improvement upon the California black walnut. We are not aware that anybody is growing the trees for shade and fuel purposes, which seem to be its best adaptations. Information as to that, however, can best be secured by addressing Mr. Burbank at Santa Rosa. The best time to transplant eucalyptus trees of the size you mention is about the time the fruit trees blossom, or a little later, signifying that the growing season has commenced. Evergreen trees take hold better when transplanted at about the time the growth should start than when handled at the dormant season which best befits deciduous trees. If the ground has good moisture, as it should have, it is not necessary to cut back at transplanting.

Early Tree Planting.

TO THE EDITOR:—Will you kindly inform me through the query columns of your interesting paper if early tree planting has a tendency to make early growth start in the spring, or does late planting have the opposite effect?—OLE, Capay.

An early planted tree will start foliage sooner than one kept dormant in a cold place and planted late, but we have never seen any difference between the starting of trees early planted in orchard and those left in the nursery row or heeled in where the sun could reach the bark. It is the sun heat on the bark which starts the activity of the top growth, and this will start whether the tree has made new root growth or not, but the continuance of the growth will depend much upon whether the roots are ready to support it. For this reason early planting is desirable, for root growth starts before the top shows activity and a tree held back for late planting, so that leaves may start later, is more apt to fail or make slack growth than one which is planted in proper season for the local climate and soil conditions.

Moss on Fruit Trees.

TO THE EDITOR:—You will find enclosed a section of a prune branch covered with a fungous growth. In your paper of some time ago you gave an account for the removal of such a growth by one pound caustic soda to six gallons water. Will you kindly examine the enclosed branch and fungus and advise me if wash above mentioned is proper one to use. Is the covering on branch purely a fungous growth or is there any sign of scale? If so, what spray would you advise?—A. A. P., Colusa.

The branch shows only the lichens, which are commonly called moss. It is not a fungus, though nearly related thereto. There is no scale present; the small round bodies of the lichen gave you that impression. The application named is the proper one.

WEATHER AND CROPS.

Report of the U. S. Weather Service for Week Ending December 26, 1904.

ALEXANDER MCADIE, Forecast Official and Section Director.

Sacramento Valley.

Cool, cloudy and foggy weather prevailed during the first of the week, followed by showers on the 23d and 24th and snow in the mountains. At the close of the week the weather was much cooler and heavy frosts occurred. Plowing and seeding continue, and the acreage in grain will probahly he considerahly larger than that of last season. Early sown grain is making fair growth and looks strong and healthy, no damage having heen done by cold weather. Green feed is still plentiful, hut its growth has heen somewhat retarded by the cold. Cattle are in good condition. Orchard pruning continues and some work is heing done in vineyards. Oranges have yielded a good crop, excellent in quality; picking and shipping are nearly completed.

Coast and Bay Sections.

The weather was cool and cloudy most of the week, with fogs in the coast districts and frosts in the interior. Rain commenced in the central and northern sections on the 23d and was quite heavy in Sonoma county. The rainfall was lighter in the southern districts on the 24th, hut was sufficient to soften the soil for plowing, giving new life to pasturage and revive the early grain and alfalfa. No material damage has been done by frost, but grain and feed have made slow growth. Early grain is looking well in the central and northern sections and pasturage is plentiful. Conditions in the south have greatly improved since last week. Orchards and vineyards are heing cleaned up and pruning is in progress. Oranges and lemons at Cloverdale are in good condition.

San Joaquin Valley.

Dense fogs prevailed most of the week, with cold, frosty nights and mornings. Light rain fell in nearly all sections on the 23d and 24th, and in most places was sufficient to soften the soil for plowing, revive early sown grain and start pasturage. The acreage in grain at present is not up to the average, but plowing and seeding will now progress more rapidly. Early sown grain is in good condition in the central and northern districts and has been greatly henefited hy the rain. Feed is plentiful except in the south and stock are doing well. Citrus fruits are nearly all gathered, but orange picking is progressing at Escalon. Good crops of oranges and lemons have heen harvested in Tulare and other counties. Pruning continues in some places.

Southern California.

The weather was cooler than during the preceding week and light frosts occurred in some sections. Rain commenced on the 22d and continued until the 24th in nearly all sections. At La Mesa the precipitation on the 22d and 23d was 2.10 inches. It was somewhat lighter on the lower levels, but will be of great henefit to orchards, grain and pasturage. The long drought has heen of serious detrimeut to all crops, and cattle have suffered from the scarcity of feed. Oranges are now maturing more rapidly and are of excellent quality, hut the yield will he lighter than usual. Lemons are doing well and a good crop is probahle.

LOS ANGELES SUMMARY.—Rain sufficient in the south to start plowing and seeding and freshened feed in the north; elsewhere too light to do good. Lull in orange shipments till after new year. Heavy frosts in northern section injured lemons in some places and killed tender vegetation.

Rainfall and Temperature.

The following data for the week ending 5 A. M. Wednesday, December 28, 1904, are from official sources and are furnished by the United States Weather Bureau for the PACIFIC RURAL PRESS:

CALIFORNIA STATIONS.	Total Rainfall for the Week.....	Total Seasonal Rainfall to Date.....	Total Seasonal Rainfall Last Year to Same Date.....	Average Seasonal Rainfall to Date...	Maximum Temperature for the week..	Minimum Temperature for the week..
Eureka	1.64	13.25	17.34	17.04	58	33
Red Bluff	.47	11.98	11.82	10.25	56	34
Sacramento	.38	8.28	4.44	7.00	54	34
San Francisco	.63	9.63	6.02	9.45	56	42
Fresno	.24	5.31	.90	3.21	52	30
Independence	T	.45	.42	1.50	58	20
San Luis Obispo	.04	4.97	.82	6.51	62	34
Los Angeles	.40	1.88	.43	5.98	68	40
San Diego	1.56	1.79	.42	2.77	66	44
Yuma	T	.91	.66	1.62	70	40

THE DAIRY.

The Shorthorn Side of the St. Louis Dairy Tests.

By H. H. Hinds, Superintendent Shorthorn Contingent, in Orange Judd Farmer.

That portion of the reading public who are interested in dairy literature, and have for the last year been taking more or less interest in the exploiting and carrying through of the St. Louis dairy demonstration, have very justly been demanding more information with reference to that demonstration than they have been receiving. More than that, they have seemed somewhat anxious to "get at" the detail figures pertaining thereto. The reading public, however, have been practically as well served in that direction as have been the actual participants in this dairy demonstration. All that has emanated from the committee in charge has been the ten-day bulletins in which certain things were assumed theoretically as the performance of the cattle participating is this dairy demonstration, but did not carry the facts as to the exact performance of any animal or group of animals.

For instance, what the 25 Jerseys accomplished in Class A during any given period is the sum of the performances of its 25 individual members during that period, and not theoretically what they might or might not have done, based upon the indications of their performance calculated upon the basis of the chemical analysis of the composite samples of their milk. And certainly when these bulletins carried assumed averages of 29 Shorthorns, in Class B for instance, when there were but 24 Shorthorns performing therein, it could hardly be taken as the work of the Shorthorns in class B.

Public Awaits Official Figures.—Nothing official has been promulgated by the test committee. At least, the superintendent of the Shorthorn contingent has received no official information as to what his own cattle accomplished in that connection. We have, however, been keeping a book, and so far as we have been able to procure data, it is fair to assume that it is approximately correct. I think I have before me the record as to exactly every pound of feed stuffs that the Shorthorns, Holsteins and Brown Swiss consumed. I have also before me the official rating of those feed stuffs for the first 60-day period of the demonstration, and the latter 60-day period, the feed rating having been changed by the committee previous to the commencement of the second period of 60 days.

I am advised, however, that the rating of one commercial food, viz., corn hearts, which was scheduled for the first period of 60 days at $12.50 per ton, and the latter period of 60 days at $18, will not be figured upon that basis so far as the Shorthorns and Jerseys are concerned, but that it will be figured at $16 for the first period and $20 for the second period so far as they are concerned. While this product of the hominy mills has been bought in the open market, I am unable to see the fairness of having one rated at $3.50 a ton more than the other for the first 60 days, and am also at a loss to know why the difference in value should be assumed to be $2 a ton during the second 60-day period, when no change in brand of feed had been made. I am advised that the chemist in analyzing these feed stuffs found that the different brands did not carry the same chemical content.

Every practical feeder is aware of the fact that all by-products of the mills, not excepting bran, vary widely in practical value, and that, whether the chemists find one brand of bran better than another, the animal that it is fed to apparently finds a difference. Hence it is now apparent that the position now taken by the representative of the Shorthorn contingent before the demonstration started at all—that equitably all the cattle should be fed from the same provender bin—was the proper one.

Dairy Breeds Secure a Good Start—The fact that reliable data is slow in appearing with reference to the detailed facts of this demonstration is in keeping with the tardiness that characterized the exploiting of the whole affair. It will be remembered that this demonstration was 30 days overripe before it ever started. "It is an ill wind that blows nobody good." Through this inexcusable lack of a prompt start the representatives of both the Holstein and Brown Swiss contingent were enabled to secure some very creditable representatives of their respective breeds of cattle, and landing them in St. Louis, where they produced calves almost at the hour of starting, and where they not only eclipsed the records of their associates of the same breeds, and possibly of all other breeds, but they led the way at such a pace as to leave a wide margin between their individual performance and the performance of their associates of the same breed.

As to the feed stuffs put before the Jersey cows, I am practically without data. If the data of weights and measures were present, the computations could hardly be made, as not all the feeds used by the representative of the Jersey contingent had been rated up to the close of the demonstration. Barrels of breakfast food has been fed to these cattle, and no person, at least outside the representative of the Jersey contingent, has the remotest idea as to what this breakfast food is to be rated at per ton. What these wonderful Jersey cattle have done in the way of throwing off product, in flow of milk and butter fat content, is before the writer.

It is a matter of history, but will bear repeating here, that the managers of the Jersey cattle club thoroughly matured their plans of procedure in connection with this demonstration months before the demonstration was exploited. More than a year before the opening of the exposition they assembled at Jerseyville, in the vicinity of St. Louis, a large contingent of the most promising Jersey cows that could be rounded up on earth. They thereby had these cattle thoroughly acclimated. They bred them to produce at a seasonable time to enter the demonstration at the period of lactation which would promise the highest results. This plan of campaign cost money in large blocks. The wisdom of the proceeding is now apparent. Of the 25 Jerseys that scored up for the word go on the morning of June 16, 23 of them finished their 120 days' work on the morning of October 13 with 200 pounds or better of butter fat to their credit.

The immensity of this performance may be better appreciated when we state that but four cows, all Jerseys, of the 74 cows that started in the Columbian test of 11 years ago, reached the 200-pound mark of butter fat in 120 days. These four cows were Brown Bessie, Merry Maiden, Ida Marigold and Sheba Rex. It now remains to be written that the record of performance of these 23 great cows was beaten by a Holstein, Missouri bred and reared, fully acclimated, and that produced a calf but a few hours before the demonstration started. The record of this wonderful cow indicates that in the 120 days covered by this demonstration she gave a flow of 8101.7 pounds milk, which showed a butter fat content of 282.6 pounds and 620.5 pounds of other solids, and grew in 114 days of the 120 days 44 pounds. This cow, however, is followed by a Jersey cow so closely that the "official count" may change positions. This Jersey gave 5802.7 pounds milk, which showed 280 2 pounds butter fat (statistics of other solids not at hand), and grew 77 pounds in 114 days.

Shorthorn Breeders Come to the Front.—Did the Shorthorn cows put up any work in this demonstration? Yes. They cleaned up and polished off all previous dairy records of Shorthorns in prolonged contests. Going back to history again, the men who manage the affairs of the American Shorthorn Breeders' Association are entirely out of range of criticism in connection with this demonstration. It may be understood that they were unwilling participators in the demonstration. There were hardly a dozen Shorthorn cows on earth that had ever been pushed for a week's record, much less for a three months' period. The ability of these cattle in dairy lines was problematical. It had been demonstrated time and time again that the Shorthorn was a superior beef animal. As an economical machine for the growing of meat of the highest quality the breed stood at the top of the pinnacle, and looked around with but few competitors closely in sight. In all places where the Shorthorn cow had been given a show, on the farm and in the hands of the patron of the cheese factory and the creamery, the balance to her credit had always appeared on the right side of her owner's bank account. In the few tilts that she had had at the fairs and in the Columbian dairy test in 1893, her records as a dairy cow were creditable. It stood much above the average of the cattle that the census enumerates as dairy cows.

The Shorthorn managers knew that they represented the best general purpose cattle thus far exploited. They felt that if there was to be a show of dual purpose cows at the great Louisiana Purchase Exposition, they should make a showing. Hence, they cheerfully appropriated the bag of money necessary to carry out the undertaking. In the work of locating and assembling 25 cows at St. Louis, everything connected with it was somewhat of a lottery.

The Cows Were not Acclimated.—Records of the abilities of Shorthorn cows in dairy lines are not available in this country. No owner of Shorthorn cattle had even considered the propriety of breeding some of his best cows in order that they might produce at about the proper period to participate in this demonstration. But a single cow of the 33 Shorthorns assembled at St. Louis was in the slightest degree acclimated in that latitude. A single Missouri cow, coming, however, from many miles north of St. Louis, was utilized. Some of the cows there assembled were not expected from their previous performance to test out worthy to be classed among the 25.

Of the 25 cows entered in Class B, in which 70 cows of the four breeds entered, one was entirely overcome by the climatic conditions obtaining, and at the end of the first 60-day period this cow was destroyed, as it seemed apparent that she would not have vigor sufficient to live out the test. Two other cows at least were so affected by their environments that they could not do effective work. The Shorthorn representative, in starting his 25 cows in Class B, which relates to dairying only, not only anticipated possible difficulties such as have already been enumerated with reference to three cows, but well knew that some of the lot, under the environments in which we were running, would turn out quitters, and he was very glad to be able to hope that 20 of his 25 cows in this class would turn out creditable dairy records.

One Cow Yields 5207 Pounds of Milk in 120 Days.—What is the result? The records of milk flow of these 20 cows in 120 days run from 3796 5 pounds milk to 5207.4 pounds milk, having a butter fat content running from 143.6 pounds to 208.5 pounds, and from 337.4 pounds other solids to 446.4 pounds other solids. Their growth in 114 days of the 120 days was from 41 pounds to 143 pounds. The average amount of milk produced by the 20 cows during the 120 days was 4421.6 pounds, showing an average butter fat content of 165.3 pounds and an average of 382.7 pounds other solids, and an average growth for the 114 days of 105.3 pounds.

Stopping for a moment to comparatively consider this record of 5207.4 pounds milk, showing 208.5 pounds butter fat, made by a Shorthorn cow in this demonstration, and her further record of 446.4 pounds other solids, and the further fact that in 114 days she grew 139 pounds, which is another name for stored energy for future work, and the additional fact that this cow produced her last calf February 26, and was again bred April 22, we may gather some information as to whether this cow is comparatively a good dairy cow or not, without reference to her beefing qualities. It should be remembered, also, that this cow was reared in Michigan, and was never out of sight of her birthplace until the last week of April this year.

Comparative Figures of 1893 at Chicago.—In the great Columbian dairy test held 11 years ago at Chicago, and which will never be wiped off the pages of history as a marker or milestone along the dairy trail of this and all other countries, but three cows (all of them Jerseys) equaled the dairy record of the Shorthorn cow we are now considering. Climatic conditions and barn environments and all other surroundings were up and away much better at Chicago than at St. Louis. These three Jersey cows were all champions in the different tests at Chicago.

Their 120 days' trial in 1893 commenced two weeks earlier than the St. Louis demonstration, and by the same token closed two weeks earlier, showing so much less period of lactation than the Shorthorn. Brown Bessie gave 4768.6 pounds milk, showing a butter fat content of 237.3 pounds and 436.9 pounds other solids, and grew 88 pounds. Merry Maiden gave 4006.2 pounds milk, showing a butter fat content of 219.5 pounds and 372 pounds other solids, and grew 39 pounds. Ida Marigold gave 4434.1 pounds milk, showing a butter fat content of 212.9 pounds and 401.9 pounds other solids, and grew 69 pounds. From all of the above we must conclude that the Shorthorn cow we have been considering, 16th Belle of Trowbridge (Volume 43, page 637, A. H. B.), must certainly take high rank as a dairy cow, and that at least four out of five of all of her associates by their performance in this demonstration have proved themselves dairy cows.

Calf Demonstration a Failure.—This is the first of its kind on record. It takes neither a prophet nor a son of a prophet to certainly predict that it will be the last one to be undertaken under like conditions. The calves should have been handled and reared in the country, and where they could have been treated as farm cattle are, and had the same advantages as calves have on modern stock farms. They could have been completely and perfectly identified and observed during the continuance of the demonstration, and economically and properly reared. Not only the environments, including heat, flies and foul air, were disastrous to their proper development, but the milk itself was unwholesome for them. The whole milk of these cows, highly fed on dry feed, carried cathartic properties that were destructive to calves. This particular defect in the Shorthorn milk seemed to be overcome in the Holstein and Brown Swiss milk, as these cows had 50 to 100 pounds per day each of green forage hauled in from the country.

A fatal calf epedemic hung to the skirts of this demonstration, which affected the bronchial tubes of the lungs, and resisted all curative efforts of the veterinarians. It became necessary to feed the calves separated milk only. They were, therefore, skim milk calves, in the broadest sense of the term, and without the farm advantages of the common dairyman's skim milk calves.

The calf end of the demonstration was a failure. In all human probability the writer will have joined the general round-up long before another demonstration of this kind is undertaken, but he pauses long enough now to write in legible characters the advice to people who would undertake this dual purpose demonstration again to handle it in two different sections, having the calves reared under farm conditions, and in the same manner as farm or show calves might be reared, and as the rules of the demonstration may permit, of course, handling the cows under such restraints and close quarters and away from the calves as the rules governing the contest might require.

The Root of the Whole Matter.—As to the question of economic production, which, after all, so far as the dairy end of the demonstration is concerned, is the entire root of the whole subject. That matter is still to be computed, and in that computa-

tion it will not require a person of very blind faith to expect that the Shorthorns will figure close up to the front. It matters little to the public what the rating of feedstuffs may be as applied to this demonstration. Those figures, that none of us yet have, may show extravagant application of values as applied to any given individual's market for supplying them.

What the public want to know, and what the writer expects to see that they do know, is exactly what kind and how much of each kind of feedstuffs any and all of the cows participating therein have consumed during the 120-day period of the demonstration. As a sample leaf for that book of data, I hereby state that the 16th Belle of Trowbridge consumed or wasted, which is equivalent to the same, during the 120 days of the demonstration, 178 pounds clover hay, 918 pounds alfalfa, 2342 pounds silage, 46 pounds corn meal, 438 pounds bran, 291 pounds hominy, 279 pounds ground oats, 331 pounds gluten feed, 245 pounds corn hearts, 313 pounds distillers' grains, 192.5 pounds oil meal, 198 pounds cottonseed, and her performance was as above noted.

THE FIELD.

University Distribution of Seeds and Plants.

In this year's distribution particular attention is paid to the dissemination of cereals, in recognition of the new interest which has awakened in these crops, both for export and for local use. In view of this rather restricted scope of the effort, it is hardly to be expected that this year's offering will appeal to as many correspondents as is usual when a more varied list is made up, and yet it seems to us that the grain growers are entitled to this particular consideration at this time.

We require the applicant to pay a small amount for each article, partly to bear the cost of collection and distribution, but chiefly as a guaranty that he has not merely an idle desire for what can be had for nothing, but intends to make trial for a definite end and will report results to us. Applications may be made for one or more kinds of seeds, but an applicant should not order more than one package of a kind. This distribution is conducted in co-operation with the Section of Seed and Plant Distribution, Bureau of Plant Industry, United States Department of Agriculture, and wherever numbers are used they are the inventory numbers of that section and should be preserved by recipients and used in their reports to us.

IMPROVEMENT OF CALIFORNIA WHEATS.—This subject is now attracting wider attention than ever before since California wheat growing began. Manifestly improvement should cover two lines, one with reference to local milling and flour export, the other with reference to export wheat and the development of more productive and profitable varieties of the starchy type, which is in demand in Europe, where the local supplies and much of the import supplies are of another type. We desire to serve both these ends.

Gluten Wheats: To improve California wheat from a milling point of view, in the increase of the gluten content of the grain, is now uppermost in the public mind. An enterprising initiative by the State Board of Trade secured the active co-operation of the San Francisco Merchants' Exchange and of leading wheat growers, merchants and millers and the energetic promotive effort of the Sacramento Development Association. This disposition is welcomed by this station, which has for several years conducted experiments with the growth of gluten wheat from distant parts of the world, in co-operation with the Bureau of Chemistry of the United States Department of Agriculture. The present movement will proceed in co-operation with the Bureau of Plant Industry of the Department of Agriculture, and will be thorough and comprehensive. We desire to supplement this work with a wide trial of certain gluten wheats by individual experimenters, and offer the following varieties:

No. 3832. Theiss from Hungary. One of the best known milling wheats of Hungary, having a large quantity of gluten of a high quality.

No. 4280. Clawson Longberry. Strong in growth, beardless, stiff straw, grain large and long, dark amber color. Especially suited to clay soils.

No. 4281. Pedigree Early Genesee Giant. Strong growth and heavy root, hardy against frost and drouth, straw medium height, short-jointed and hard, resisting wind and rain without lodging. Grain large and plump, light amber, and rich in gluten.

No. 5493. Fultz. A popular dark wheat of the States east of the Rocky mountains.

No. 9131. Chul-bidai (Steppe wheat) from Russian Central Asia. One of the hardiest Asiatic wheats.

No. 9478. Kubanka from Brookings, S. D. One of the best macaroni wheats.

WHITE WHEATS.—In the effort to secure wheats which shall manifest desirable characters and adaptations without reference to gluten content, the following are offered for order trial, viz.:

[No. 293-04.] California Gem. This is a variety whose ultimate origin is at present untraced. It has been grown at our sub-station near Tulare for five years, and has distinguished itself for surpassing the Sonora, which has long been the leading variety in the upper San Joaquin valley. Grown alongside Sonora it has yielded from two to three sacks more per acre, and it is also held to be a better milling wheat. It should be widely tried in competition with Sonora and wherever a short-season, drouth-resistant variety is required.

No. 5075. Allora, obtained in New South Wales. Medium or short growth, bald or slightly bearded, rather rust resistant and drouth resistant, grain white.

No. 5077. Canning Downs. Also from New South Wales. Short growth, bearded, early, white grain.

No. 5079. King's Early. Also from New South Wales. Very early, white grain.

No. 5486. Dawson's Golden Chaff. A New York wheat, very hardy, yielding heavily when other varieties almost failed.

Seed in one-pound packages, 15 cents for each variety ordered, postpaid.

IMPROVEMENT OF CALIFORNIA BREWING BARLEYS.—The growing export trade in California brewing barley noted in our seed circular last year has continued to command the interest of grain growers and to stimulate their desire to test varieties largely grown for brewing in other countries to determine if any of them are better in yield and quality than those chiefly grown in this State. The following recently introduced European varieties are offered:

No. 12023. Smyrna Brewing Barley. This variety was secured in Smyrna in 1901 by Mr. George C. Roeding, acting for the division of seed and plant introduction of the United States Department of Agriculture, and it has been grown by Mr. Roeding for three years. The variety is one for which Smyrna is famous, and the grain is extensively shipped to England, where it commands a high price for the higher brewers' products. Mr. Roeding's trials demonstrated clear suitability for interior situations in California. It is a very strong grower and apt to lodge with heavy spring rains, but under normal spring conditions in the interior valley it behaves well, and in dry spring develops on short straw an astonishing amount of plump grain of the best quality. It is a two-rowed barley, apparently of the Chevalier type, but has in Mr. Roeding's experience demonstrated its success where the old Chevalier is condemned. The yield at Fresno this year was an average of thirty sacks per acre, averaging 116 pounds to the sack. This variety promises to have a great career in the interior valley of California, and should be widely tried this year.

No. 5590 and No. 5847. Kitzing. The most noted of all Bavarian brewing barleys, heavy, thin-skinned, with large starch percentage.

No. 5591. Lower Frankish. Especially recommended for heavy soils.

No. 5592. Wurzburg. Another of the Lower Frankish varieties, especially commended for good, fairly light soil.

No. 4340. Altamura. One of the best Italian varieties.
No. 5842. Chevalier from Binsbach.
No. 5843. Websgersten from Binsbach.
No. 5844. Frankengersten from Binsbach.
No. 5845. Bohemian from Thalham.
No. 5849. Lawinger from Bavaria.
No. 5850. Kwassiter, original Hanna pedigree, Saatgerste
No. 5851. Landgerste from Klausberg.
No. 5855. Funfstetter from Burgheim.
No. 5857. Frankish from Palushofen.
No. 5868. Bohemian from Aufhaufen.
No. 5870. Frankish from Schwebheim.
No. 5873. Frankish from Unterschweinach.
No. 5873. Mittelgerste from Escleben.
No. 7583. Beldi from Algeria. A barley largely grown on the salt lands in the vicinity of the Sahara.
No. 7584. Telli. Another barley from the same region.

Seed in 1-lb. packages, 15 cents for each variety, postpaid

OTHER PLANTS.—Forage plant for sheep ranges: The African tansy (Pentzia virgata) has long been of highly reputed value as a forage for sheep. It is from South Africa and is described by Von Mueller as a small, cushion-like bush which covers the ground rapidly by rooting from prostrate branches. It is also commended for fixing sand against washing. Mutton from sheep pasturing on the plant is said to be particularly palatable. It should be tried on desert lands, with the chance of making them available for flocks. Seed in packets, 5 cents each.

Tall oat grass (Arrhenatherum avenaceum): This hardy grass has been frequently praised in our earlier reports, and deserves wider trial. Fortunately, the seed can now be had in quantity from the seedsmen. It is a good winter grower from an early start in the fall from the roots, which will maintain life during the dry season under conditions which will destroy most other introduced grasses. It cannot be relied upon to live through on very dry plains and slopes of the interior, but it endures some very trying situations in the coast districts. To extend trial of it we offer seed in packets, 5 cents each, postpaid.

A timber and fuel tree (Casuarina torulosa): The casuarinas or she oaks of Australia constitute a very unique and useful group of trees and shrubs. They are jointed and leafless, with long, slender branches, and the larger growing species afford timber of high manufacturing and fuel value. Some of the species have been quite widely used in Florida and California for ornamental planting. The species torulosa attains a height of 70 to 80 feet, and in its native country is in much demand for durable shingles, staves, and furniture work. In Maiden's "Useful Plants of Australia" it is mentioned as much used for fuel. Maiden also says that the wood is close grained and prettily marked, yielding handsome veneers which have a peculiar and characteristic marking. The line of demarcation of the heart wood is well defined and used for cabinet work. All the casuarinas are said to endure pollarding for stock feeding. For satisfactory growth some irrigation will be required, unless the ground water is within reach of the roots.

Last year we distributed seed; this year we offer seedlings—small trees for planting out, at 25 cents per package, postpaid.

Globe Artichokes: We offer seed of four varieties of Italian Globe artichokes, without particular commendation, but for the interest of those who desire to compare them with the kinds commonly grown in California. Three varieties were mixed by accident, and they are the Large Green of Lacon, the Purple of Venice and the Modica of Naples. One variety is named, viz.:

No. 4348. Remontant from Naples.
Nos. 4346-7-8. Mixed.

Seed in packets, 5 cents for each variety, postpaid.

Garden Peppers: Two varieties of Bolivian peppers, received from Mr. E. M. Ehrhorn, deputy commissioner of horticulture, have been grown in our garden, and disclosed characters suggesting the desirability of wider trial, viz.:

Locoto—High bush form, a vigorous grower and very prolific, quite hardy. Pods medium sized, rather long, very hot while still green.

Bolivian—Also high bush form and a strong grower and prolific; rather more hardy than Locoto. Pods large and short, taking a purple-black color before ripening; bland flavor, quite fleshy; should be tried as a table vegetable.

Seed in packets, 5 cents for each variety, postpaid.

SPIKE LAVENDER.—This popular fragrant bushy plant is quite largely and successfully grown in California, though little is done with it commercially. We have grown a variety of it (Lavendula spica 8529), introduced by the United States Department of Agriculture, and offer it for comparison with the prevalent forms, to determine if it has points of superiority. Seed in packets, 5 cents each, postpaid.

Application, with the amount specified for each variety ordered, should be made as soon as this announcement is received. We are unable to continue distribution throughout the year. E. J. WICKSON, Agricultural Experiment Station, Berkeley.

THE IRRIGATOR.

Water Rights in California.

Written for the PACIFIC RURAL PRESS by SAMUEL C. WIEL.

HISTORICAL.—The law of water in California is built in two parts. One part came with the general body of the law from the older States, and to them from England—the common law of riparian rights. The other part had its birth in California and was developed on the western slope alone—the law of appropriation. At the outset the latter took a strong hold, and was intended to replace the other system completely. That was because the law of appropriation grew out of the customs and necessities of mining, and mining in those days in California surpassed everything else in importance. To-day it is somewhat different, because California is now a great commercial and agricultural as well as a mining State. The law of appropriation is still applied, but, in fact, to a less extent than the law of riparian rights.

The law of appropriation arose in the early days when the pioneers were, perhaps, aided in drifting into it by the Mexican law which they found there. The Mexican law regarded the use of water as a common right, to be taken advantage of by any inhabitant of neighboring pueblos. The pioneers had to have water to work their mines, and this common right must have encouraged them to take the water wherever they could find it. Certainly that is what they did. Later comers, among themselves, grew to regard that as proper. The principle of "first come first served" became a firmly established custom in the use of waters. It served its purpose well—in fact, in Nevada, where mining remains of predominating importance, it is still the only rule. The miners in California pressed this custom upon the courts very early. Lawyers in mining regions depend more on their own reasoning and originality than on precedent. It was forced upon them partly by the rough and ready spirit of mining camps and partly by the lack of books and of facilities for reference. As early as the third volume of California Reports the matter was before the Supreme Court of California, but the court was not ready to declare this custom lawful. In the year 1855, however, the universal acceptance of it was so clear that the Supreme Court declared it the law of the State. (Irwin vs. Phillips, 5 Cal., 140.) It was not done by statutory legislation, but by a decision of the Supreme Court, entirely hostile to what was and still is known as the common law rule, which the Supreme Court was supposed to declare. True, the courts said they were in true harmony with the common law, because of the deeper seated rule that established customs will always be taken into consideration by the judges, but it has since been acknowledged that the decision was actu-

ally hostile to the common law—a proper decision, however, because the old law was uot suited to existing conditions, and only such law is brought with settlers into new communities as are suited to their conditions. The principle of appropriation was affirmed by the Supreme Court of the United States (Atchinsou vs. Peterson, 87 U. S., 507, and later cases).

Thereafter California grew into a settled agricultural and commercial community, resembling more and more the older States and needing more and more the older law that had been replaced. Riparian rights were meutioned occasionally in the cases, but the understanding had become general that riparian rights were entirely out of favor in California. The early legislation was strongly in that direction. An Act authorized a miner to enter upon agriculturist's land and, if he paid for it, actually take the water, ditches, etc., for his own use, though he was not the first comer at all. It was enough if he was the first miner. But this was held unconstitutional (16 Cal., 154; 23 Cal., 452). The law of riparian rights was, however, firmly established again in 1886 by a decision of the Supreme Court mainly independent of legislation. A case arose out of the use of the Kern river for irrigation, the case of Lux vs. Haggin, 69 Cal., 255. The defendant, J. B. Haggin, haviug organized an irrigation company, claimed the right to divert the waters of the Kern river by an appropriation to that effect, denying that any rights which under under the rule of riparian rights would have prevented this could be recognized in California. It is probably the most extended opinion in California reports. The previous cases had almost all arisen out of mining, but here was one in the San Joaquin valley, and it showed how the law must consider water rights of immense value, though where mining was in no way concerned. Among other things the Supreme Court said: "The doctrine of appropriation, so called, is not the doctrine of the common law," and, deciding against Haggin, held that the doctrine of appropriation aud the old rule of riparian rights existed in California together, in a way that, as will appear hereafter, makes the latter really overshadow the former. At the time of this decision C. C. 1410 read, "The right to the use of running water flowing in a river or stream or down a canyon or ravine may be acquired by appropriation," and C. C. 1422 read, "The rights of riparian proprietors are not affected by the provisions of this title." But the decision was reached on common law principles, of which the latter section was said to be merely declaratory, so that the result would have been the same had C. C. 1422 never been enacted. This had been forecasted in "Pomeroy on Riparian Rights" before Lux vs. Haggin arose. In other States this restoration has been urged also. But in Nevada, for example, they refused to have anything to do with riparian rights and would not follow Lux vs. Haggin, though that case was commented upon. (20 Nev., 269.) In "Farnham on Waters" the Nevada court is sharply criticised for this action.

The law of appropriation is still of first importance to the miner, however. Its practical interest to the readers of the Pacific Rural Press is relied on to justify this attempt to collect and state the rules which California decisions leave us to-day. In some respects there have been important modifications from the early law.

Where an Appropriation Can Be Made.—1. An appropriation can be made only on unoccupied public lands of the United States, or of the State. As to public lands: Of federal lands the National Government is the owner, and has full power to dispose of them as it sees fit. Congress has made the rule of appropriation apply to them, first, by tacit acquiescence in early customs of miners (whose operations were, of course, almost entirely upon public lands), now by express provisions in Sections 2339, 2340, Revised Statutes.

"The principle of prior appropriation of water on the public lands in California, where its artificial use for agricultural, mining and other like purposes is absolutely essential, which has all along been recognized and sanctioned by the local customs, laws and decisions, was thus expressly recognized and sanctioned by the Supreme Court of the United States, and also by the act of Congress of 1866. And in keeping with this policy, Congress further provided, in Sectiou 17 of the amendatory act, approved July 9, 1870, (Copp's Mining Decisions, 1873–74, p. 296), "that all patents granted or pre-emptions of homesteads allowed, shall be subject to any vested and accrued water right or rights to ditches and reservoirs used in connection with such water rights as may have been acquired under or recognized by the ninth section of the act of which this is amendatory, to wit, the act of July 26, 1866." The above words were used in Osgood vs. Water Co., 56 Cal. 571.

The provisions of the Statutes of 1866 and 1870 there referred to are those now incorporated in Sections 2339 aud 2340, Revised Statutes, and are as follows:

Revised Statute, Section 2339—Whenever, by priority of possession, rights to the use of water for mining, agricultural, manufacturing, or other purposes, have vested and accrued, and the same are recoguized by the local customs, laws and the decisions of courts, the possessors and owners of such vested rights shall be maintained and protected in the same; and the right of way for the construction of ditches and canals for the purpose herein specified is acknowledged and confirmed; but whenever any person, iu the construction of any ditch or canal, injures or damages the possession of any settler on the public domain, the party committing such injury or damage shall be liable to the party injured for such injury or damage.

Revised Statutes, Section 2340 — All patents granted, or pre-emption or homesteads allowed, shall be subject to any vested and accrued water rights, or rights to ditches and reservoirs used in connection with such water rights, as may have been acquired under or recognized by the preceding section.

Of State lands likewise the State is the owner and the State has likewise made the law of appropriation apply to them, by Sections 1410–1422, Civil Code. (Lux vs. Haggin, 69 Cal. 255.)

As to private or occupied lands: No appropriation can be made on or injuriously affecting any private or occupied lands whatsoever. The point of appropriation must be itself unoccupied, and all lands affected injuriously in their use of water by another's appropriation must also be unoccupied. If the point of appropriation is on lands already occupied any acts done on them without the occupant's consent are unlawful, just as trespassing on any private property. (42 Cal. 339, 106 Cal. 660 at 670). If other occupied lands, though the point of appropriation is not upon them, are affected injuriously in their use of the water the appropriation is likewise unlawful, because it has been held that the Government impliedly grants to all prior occupants at least the riparian rights of the common law. This was the first great cutting down of the law of appropriation. A later appropriator cannot take away an occupant's riparian rights, though he goes on vacant lands to do it. (Lux vs. Haggin, 69 Cal. 255).

Every bona fide settler is protected as an occupant in this riparian right. He need not be the absolute owner of the land. If he has made an entry under the homestead or pre-emption laws it is enough. Even, it is held if he has made no entry, so long as he bona fide intends to make one. (Sturr vs. Buck, 133 U. S. 541). Those holding patented mining claims are within the protection given to occupants, since they are absolute owners of the land; and even unpatented mining locations have riparian rights. (8 Cal. 136, 8 Cal. 323).

In this way agriculturists and others in the neighborhood are protected first, without any formalities of appropriation at all on their part. It remains true, however, that the occupant will not be protected against appropriators if he is a mere intruder or squatter not iutending to settle (113 Cal. 142), or if the land was known to contain mineral at the time he entered, since in neither case he would be a bona fide settler. (115 U. S. 392).

No appropriation can be made on or interfering with private or occupied lands as thus explained, because an appropriation cannot be initiated by a trespass, and cannot interfere with established riparian rights.

2. An appropriator must not interfere with prior appropriators. (C. C. 1414). There may be several appropriators on the same stream; but the later comers can only take the surplus left by those who came first. Whether the prior appropriator is himself a miner or not makes no difference. "No partiality for one pursuit over another has been evinced." And so, while a miner prior to a sawmill was protected in 6 Cal. 548, on the other hand, the sawmill being prior was protected in 5 Cal. 395 and 13 Cal. 33.

3. The larger part of the lands in California being occupied or privately owned to-day no appropriation can be made on or affecting them injuriously, and hence it is that the law of appropriation is to-day overshadowed by the other rule of riparian rights, which rule governs land so occupied or privately owned. In the mining regions there is still much land unoccupied, or land staked out for mining claims that will be in the future abandoned, or land subject to water rights of appropriation before they become private, in all of which the law of appropriation applies. But in the State at large most land is privately owned, not subject to appropriation, and the law of riparian rights is applied instead.

(to be continued.)

FRUIT MARKETING.

Deciduous Fruit Shipments of 1904.

From an address by Lt. Gov. Alden Anderson at the San Jose Fruit Growers' Convention.

The season of shipping fresh deciduous fruits of 1904 has not been a propitious one, principally because of adverse climatic conditions. At the time of the blossoming of the trees we had continuous and heavy rains, which washed the pollen from the bloom and prevented fertilization, with the result that fruit did not set well, and in many of the heavy shipping districts there was the lightest general crop ever had, while in others some varieties were full and other varieties were a complete failure. This lack of variety of assortment made it difficult to supply and control markets that had heretofore looked almost wholly to California for their supplies. This was particularly true of peaches, there being shipped this year only 559 cars, as against 1867 cars last year.

The quality of the peaches that were had this year was not up to the usual standard, and the consequence was that many places turned their attention to the peach-growing districts in the South for their supplies, and the scarcity of peaches here for shipment resulted also in a curtailed outlet in outside markets for other varieties of fruit that would have gone in the cars, of which peaches would have been the chief assortment.

Cherries.—The crop of cherries was practically about the same as last year. When the season was well under way, a very heavy north wind bruised the fruit remaining on the trees so that the rest of the shipments did not realize the prices that the market conditions and the quantity of supplies would have justified.

Apricots.—Owing to the marked shortage of this variety of fruit in the early shipping districts, there were only shipped ninety-seven cars, as against 241 cars last year. Prices were satisfactory for those shipped.

Plums and Prunes.—There were shipped 1053 cars, as against 1145 cars last year. On the whole, returns for this variety of fruit were satisfactory.

Pears.—The total number of cars shipped was considerable in excess of that of last season, and the excess was wholly in Bartlett pears, fall and winter varieties being about the same quantity as last year. There was more competition in this variety of fruit than has been the case for a number of years, and the bulk of them was shipped at a time when there were heavy supplies of southern fruits. The markets became demoralized and returns generally were not good or satisfactory. However, the greater quantity of this fruit was purchased by shippers, and the loss did not fall upon the growers.

Grapes.—There were shipped 1451 cars of grapes, as against 1804 cars last season. The unusual and excessive rains of last September were responsible for a shrinkage in the total volume of grape shipments that would have been made of 800 or 900 cars, and seriously affected the prices received for all the grapes shipped after the heavy storms, as the berries absorbed so much moisture that when they were packed up in cars for shipment they developed much decay.

The following statement of shipments, beginning May 13 and ending November 26, 1904, gives in actual figures some 90% of the shipments, and estimates of the balances as gathered for statistical purposes by this company, and same is correct within a very few carloads, of all varieties:

Cherries, 209 cars.
Apricots, 97 cars.
Peaches, 559 cars.
Plums and prunes, 1053 cars.
Pears, 2186 cars.
Apples, 43 cars. All shipments not included.
Figs, nectarines, quinces, etc., 28 cars.
Grapes, 1451 cars.
Total of 5626 cars.

Railroad Time.—The time given by the transportation companies up to the point where happened unusual and bad washouts on the southern routes and occurred the excursions of the Knights Templars and Odd Fellows to San Francisco, was better than last season. After the incidents above mentioned, service was about on a par with that of last season.

French Trade in Fresh and Dried Fruits.

From United States Consul A. M. Thackara, Havre, France.

Owing to the almost total failure of the French fruit crop last season the importations of American dried and fresh fruits into France during 1903 assumed unusual proportions.

In the following table are given the imports of fresh and dried apples aud other dried fruits into France for consumption (commerce special) in the past three years. The bulk of the dried fruit was of American origin. The weights given are net in all cases but that of fresh apples and pears:

Fruits.	1901. Pounds.	1902. Pounds.	1903. Pounds.
Dried apples for table use	429,000	506,000	2,381,000
Chopped apples for cider making	3,457,000	6,770,000	17,972,000
Dried prunes	1,225,000	12,943,000	29,676,000
Other dried fruits, including apricots	4,768,000	6,738,000	10,531,000
Fresh apples and pears (gross weight)	9,613,000	22,336,000	27,239,000

In the following table are given the imports of dried and fresh apples and other dried fruits into the whole of France in the first eight months of the last three years:

Fruits.	1902. Tons.	1903. Tons.	1904. Tons.
Fresh apples and pears	1,873	5,888	3,847
Dried apples for table use	112	484	1,488
Chopped apples for cider making	1,870	5,995	7,618
Dried prunes	1,011	9,391	9,170
Other dried fruits, including apricots	460	2,253	2,502

As the fruit crop of France this year is unusually abundant the demand for American fruits during the coming season will be restricted and the imports from the United States will show a great falling off. All fruits are selling at very low prices.

Agricultural Review.

Butte.

ORGANIZATION OF ORANGE GROWERS.—Oroville special to Sacramento Bee: Butte county will likely soon have some kind of an organization among its orange men. Orange growers state that an organization will be perfected even if only 20% of the acreage is subscribed. The growers say that under the present plan their profits are growing less and that Butte county's reputation is also suffering. They argue that the organization will be more for the benefit of tho small growers than for that of the larger ones. The next meeting will be on January 14, and at this meeting the supporters of an organization hope to accomplish it.

Humboldt.

CREAMERY PRICES.—Arcata Union: Creameries in this section paid this month as follows for butter fat: Arcata Creamery 21½c, Premium 22c, Peterson & Laurenson 21½c, Minor 21½c. Eel river valley creameries paid as follows: Capitol 22c, Cold Spring 22c, Crown 22c, Eel River 22½c, Excelsior 22½c, Grizzly Bluff 22c, White Star 21c, Pioneer 23c, Central 23½c, Riverside 23c, Silver Star 22c, Cream City 22½c.

Kings.

SEEDING LAKE LANDS.—Hanford Sentinel: J. W. Barbour intends to seed about 18,000 acres of the Tulare Lake country to grain this year. He has leased seventeen sections of land from the Santa Fe people, and in the lease he has a contract to repair some of the old and construct some new levees and ditches and to accomplish all this work in the time allotted, until March 1st, he expects to put about fifty 4-horse teams to work. He now has some teams and men working on a stretch of 11 miles of ditch, 25 feet wide on the bottom, and besides this there are 7 miles of 60-foot canal to construct and several miles of 6-foot levee to build and also several miles to repair—a total of 14 miles of levee work. This ditch work will provide means to take a great deal of the water out of Kings river and use it in irrigating the lands on the east side of the mouth of the river, and the levees will give protection against overflow water, if there happens to be such a run as there was last season. Mr. Barbour now has several teams putting in grain on a 1200-acre piece on the east side of the river and another crew of men and teams seeding a 2500-acre piece on the west side of the river and lake. In the seeding of the 18,000 acres about ten 8-horse drill teams will be used.

WHAT ALFALFA LAND PAYS.—G. W. Murray, county assessor, has six acres of alfalfa on his small place southwest of this city and during this past year he has pastured four horses and four head of cattle on it and also cut over forty tons of fine hay from the piece; twenty-two tons of this he sold for $132 and the remainder he has used or still has. Allowing the current price of $5 per ton (for the hay in the cock) for the eighteen tons not sold, he took $222 worth of hay from the six acres. Then we will deduct $1 per ton for cutting the hay and putting it in the cock and still it leaves $182 as net receipts, or over $30 per acre.

Los Angeles.

HOPE FOR VALENCIA GROWERS.—Azusa Pomotropic: In view of the often expressed fear lest the Valencia Late be "overdone" and the production be far ahead of the demand in the near future, some reports brought from the East by Manager B. A. Woodford of the Southern California Fruit Exchange will be of interest. Mr. Woodford on his recent trip to all leading markets of the country found our Valencias in high favor and the dealers everywhere told him that the demand for them was increasing every year. Markets in which this variety of fruit was never seen a few years ago are now taking regular supplies all through the summer months. One enthusiastic dealer told Mr. Woodford that California need not worry over the question of overproduction of Valencias until the shipments passed the 1500-car mark, as the country could readily absorb that quantity at good prices.

WALNUTS BRING $370,000.—Secretary Montgomery of the Los Nietos and Ranchito Walnut Growers' Association has his final report of the returns from the past year's crop. The total shipments for this season was 181 carloads, averaging 20,000 pounds each. The price received for the Association output was $370,000 cash, the largest sum ever received by any Association for any year, although not the largest crop.

NEW KIND OF FRUIT.—Pasadena Times: W. Scott Way of Altadena has on exhibition in the Board of Trade rooms a South American fruit that goes by the name of Feijoa Selowaina, and has always proved as hard to grow as to pronounce. It is a native of Uruguay and Brazil and is quite popular in the Paris markets. It has been raised to a certain extent on the shores of the Mediterranean sea also. The fruit is larger than a plum, and in taste is a composite reproduction of a pineapple, strawberry and guava, according to Way, who thinks that it can be raised here to an extent that it may be of commercial value.

ORANGE TREES EXPORTED.—The first carload of orange trees shipped this season from the San Dimas nurseries was sent to Oakland. A few days later 2000 trees were shipped to Town Bush Valley, Pietermaritzburg, South Africa, and 25,000 trees are under orders to be shipped to the Transvaal, South Africa, next month. The export business of the San Dimas nurseries is said to be the largest in this line in the United States.

PIGS MILK COW.—Covina Argus: Peter Johnstone and Henry Anderson are telling a story of two very enterprising young pigs at the Johnstone ranch. Besides the pigs at the ranch there is a very gentle cow, an excellent milker. One day this week the boys surprised the shoats in sitting on their hams sucking the cow, who seemed to enjoy the performance quite as much as the pigs.

Riverside.

COACHELLA ASPARAGUS.—Submarine: The Coachella valley is rapidly coming to the front as an asparagus growing section. Several small fields are now of bearing age and the yield is exceedingly heavy, the profits being decidedly large, running close to $1000 per acre each year. Among the chief factors favoring the growth of this succulent and profitable plant here is the entirely dewless condition of this desert oasis. So great has been the loss from asparagus rust in other parts of California, as well as throughout the United States generally, that even the heaviest growers and shippers of asparagus in the Union have turned their attention to this valley, notable among them being H. W. & W. E. Meek of Haywards, Cal., who last year shipped thirteen carloads of asparagus from northern California at a profit of $40,000, in spite of rust and floods. These gentlemen last January bought 160 acres of land in the Coachella valley on account of its freedom from dew and the consequent likelihood that asparagus rust can never affect asparagus here.

Sacramento.

ORANGE TREE 55 YEARS OLD STILL PROLIFIC.—Bee: Traft Crump brought to the Bee office to-day several specimens of the fruit from what he considers one of the most remarkable orango trees in California. The tree is 55 years old, but shows no sign of intention to go out of business. In 1849 Thomas Hanna, an early-day auctioneer, returned to these shores from a visit to the Sandwich Islands with a budding orange tree in a small oyster can. He presented it to Mrs. Crump in 1851, after having provided a box for the tree and nursed its growth until it was 3 feet high. The Crumps then lived on Q street, between Second and Third, and the tree was planted in the yard there. Five or six years later Mr. Crump traded his city home for a place down the river, and the orange tree was uprooted, placed in a half-keg filled with earth and kept at the ranch for several years until the family came back to town. Traft, who was then quite a boy, again planted the tree on what is now the Clunie warehouse site. In 1869 it was again uplifted and carried to the new Crump home on N street, between Fourth and Fifth, where it has ever since remained. Three years ago the tree got so big it had to be trimmed down. Last year the oranges were not up to the standard, so Mr. Crump got a basketful of old fish and fertilized the soil around the roots with it. The effect was magical, a number of fresh new sprouts appearing all the way up the trunk of the tree. The oranges are beautiful in appearance, clean and fine, and of fine flavor. The yield fell off to ten oranges this season, but Mr. Crump thinks the dead fish have acted as an elixir and that in a year or two the tree will beat its record crop of 1500.

San Benito.

CUTTING OUT THE ORCHARDS—San Juan Valley Echo: The number of fruit men taking out their trees this year is a good proof that orchards in this valley can not be made to pay as well as other branches of farming. This year a number of the farmers will raise seed, and there is every reason to believe that there will be an abundant yield of the finest quality. Small dairy farms with a stand of alfalfa are less expensive than orchards and they pay well. Even raising beets is more profitable than an orchard. Mr. N. G. Perry has cleared $50 a month on ten cows, with only ten acres of alfalfa, while the Cartwright place adjoining, with fifty acres in orchard, has never paid a cent.

San Bernardino.

FUMIGATING ALL ORANGE BOXES.—Redlands Review: So far as is known, the Redlands Fruit Association is the first packing house to establish a custom of fumigating all boxes as they arrivo from the different orange groves and are emptied of citrus fruits. There has been much discussion among the Redland fruit growers and packers recently concerning the advisability of fumigating the boxes as they are transferred from one grove to another. At a recent meeting of the Redlands Fruit Association, it was definitely decided to make the work of fumigating the boxes a part of the citrus fruit picking and packing business.

DATES AT MECCA.—The Government is making plans to put out several acres of dates at Mecca in addition to those already planted. A representative has been sent to the Sahara desert for the purpose of securing more of the palms, which will be brought here this winter. Mr. Johnson, who is in charge of the Governmont date farm, was expecting to make a trip to the Sahara this winter for the purpose of securing more dates for his own place, but because of this being the first winter in which the Government palms have been in California, it is proposed that he remain at Mecca and make such experiments as may be desired.

SELLS ORANGE GROVE.—Redlands Facts: Col. W. J. Withers yesterday sold his ten-acre grove, situated 2 miles west of Redlands, to H. M. Snades of Cedar Falls, Iowa. The price paid was $6200. This grove is said to be one of the best kept as well as one of the prettiest places in West Redlands. It is set with six-year-old trees. Hereafter Col. Withers will devoto all of his time to an eighteen-acre grove which he owns, situated a short distance north of Redlands. According to real estate men, Mr. Snades bought the grove at a reasonably low figure, considering the improvements on the place.

San Diego.

GROWING COTTON.—Imperial News: Joe McDonald, who owns land in Water Co. No. 6, is preparing to put in 600 acres of cotton. He is confident that it will do well in the valley, and in order to pay them to get the necessary machinery they will put in the above-named acreage. At Calexico they have been experimenting with cotton very successfully for the last two years. At Bawley, in the Investment Co.'s yard, some cotton is growing that was planted a year ago last July. It lived over last winter without the frost hurting it, and it has had more or less cotton on now for several months past.

Santa Cruz.

TWO CROPS OF BEANS IN TWO MONTHS.—Watsonville Pajaronian: A couple of months ago James Rowe harvested a crop of beans on his place near the "sandcut," and now he has about 2000 pounds of string beans, valued at $100, from volunteer vines on the same piece of land. The new crop was brought on by the early rains, and had the vines been thinned properly the yield would have been twice as heavy. Two crops of beans on the same piece of land within two months of each othor speaks well for Pajaro valley soil and climate.

CHRISTMAS CHERRIES.—Picking ripe cherries on December 21st from trees in an open orchard is something unusual, even in Pajaro valley, but that is what F. M. Rowley did in his Corralitos orchard. As an evidence of this fact, Mr. Rowley brought several of the cherries to town. The fruit is from trees that bore a heavy crop at the regular season and are putting forth a second yield. The cherries are ripe, well matured and of rich color.

Sutter.

SHIPPING WHEAT TO MISSOURI.—Yuba City Farmer: The Farmers' Co. Union of this place is shipping 400 tons of wheat to Kansas City, Mo., and during the past few months shipments from their warehouse have also been made to different parts of this State and to adjoining States.

SEVERAL HUNDRED ACRES BEING PLANTED.—Yuba City Independent: F. W. Cooper reports that he has already sold for the Chico Nursery Co., which he represents here, about 14,000 young fruit trees. The sales have been made to people who reside within a radius of 5 miles of Yuba City. As the season is scarcely more than half over, it is safe to say that his sales will be much greater by the time the season closes. This represents about 150 acres. Mr. Luyster, who represents the Fancher Creek Nursery Co., says his sales have been very large and will probably exceed 15,000 trees, or enough to plant 150 acres. His sales have been confined principally to the Yuba City district. Adding to these the sales here that other nursery companies have made will make the total planting of young orchards this season reach about 400 acres.

Tulare

FARMING ON LAKE LANDS.—Porterville Enterprise: John Ellis, the Frazier valley rancher, who is located at Lemoore this season, is putting in a crop of 5000 acres of grain on lake bottom land. His earliest sowing, which was put in on wet land, is up and making a good growth. There is much volunteer wheat in that section of the country 1 foot high and the wild geese are devouring it like a drove of hogs. Mr. Ellis states, however, that the geese and ducks are not doing the damage now that they have been doing. They are being hunted a good deal and there is no lack of fresh meat in that section of the country. Mr. Ellis killed seventeen geese not long ago with two charges from his double-barreled shotgun.

SPLENDID ORANGE ORCHARD.—Hanford Sentinel: J. Clarence Rice brings a glowing report of Mr. Arthur Clark's ranch in the mountains back of Porterville which is composed of about fifty acres, thirty of which are set to Navel oranges. The orchard is now coming into bearing, and owing to favorable conditions in that citrus belt, the property will soon become a fortune to the owner. Mr. Clark picked 850 large boxes of Navels this year and from the lot there were only twenty pounds of culls, and there is not a scale in the whole orchard.

CANTALOUPES.—Exeter Sun: Exeter producers completed an organization Tuesday. The Association has about twenty members, and its object is to raise and market cantaloupes. Their holdings amounts to about 600 acres. In addition to these men, there are three large growers who will market their product outside the Association. K. Arlcelain & Co. of Fresno have leased 125 acres from Firebaugh & Bro., which will be planted to the Rocky Ford variety of cantaloupes. This firm is both dealer and producer of melons, and have already ordered their seed for planting. They will dispose of their crop through their own wholesale house at San Francisco.

PAYING CITRUS FARM.—Visalia Delta: William McIndoo of Fresno has a ten-acre tract of land, near Lindsay, planted to Navel oranges. From the ten acres this year Mr. McIndoo harvested ten cars of 360 boxes each. He received $2 per box, making $720 per acre worth of produce, or $7200 for the ten acres. His orchard cannot be purchased for $1200 an acre and ten years ago the land sold for less than $50.

MONEY IN HOGS.—Frank Arnold of Drum valley brought in two wagon loads of hogs that he sold to the Visalia market. His hogs averaged over 200 pounds each and he received 4 cents per pound for them. Mr. Arnold's hogs were fed on acorns and he states that the mass has been heavy.

Ventura.

HIGH-GRADE HORSEFLESH.—Democrat: O. C. Willis, of the Simi, breeder of quick steppers, made a trip to Ventura yesterday behind his 17-year-old brood mare and her McKinney colt, coming 3 years. Of her stock he has sold $1100 worth, and has three of her colts on hand. She has produced some of the fastest pole teams in the State. A span was sold to Los Angeles parties for $500, which was shipped to Honolulu. He also recently sold to John Carne, president of the First National Bank, a handsome pair of Longworth colts, closing the deal at $400.

Yuba.

SETTING OUT ORCHARDS.—Marysville special to Sacramento Bee: From the nurserymen it is learned that there will be an unusually busy season of tree planting in this vicinity this spring. The buyers of small tracts are studying the best varieties to begin with, and the majority are going in for the almond and the Muir peach. There will also be put out cling peaches, prunes, cherries and grapevines.

Horse Owners! Use GOMBAULT'S Caustic Balsam



A Safe, Speedy, and Positive Cure

The safest, Best BLISTER ever used. Takes the place of all liniments for mild or severe action. Removes all Bunches or Blemishes from Horses and Cattle. SUPERSEDES ALL CAUTERY OR FIRING. *Impossible to produce scar or blemish.* Every bottle sold is warranted to give satisfaction. Price $1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars.

THE LAWRENCE-WILLIAMS CO., Cleveland, O.

The Home Circle.

Yankee Pumpkin Pie.

You may talk about your foreign cooks
and all the things they make,
The thousand dainty dishes that they
stew and boil and bake;
You may prate about their wondrous skill
in culinary arts,
How deftly they can manufacture pud-
dings, pies and tarts;
Go praise the French and German chefs,
and the Italians, too,
For making salads, sauces, soups and
fancy dishes new—
But for a toothsome morsel upon which I
can rely,
Just give to me a solid wedge of Yankee
pumpkin pie.

Let those of fashionable tastes turn up
the nose in pride,
And think it quite plebeian to be simply
satisfied:
Let them eat their pate de foie gras,
their truffles and such stuff
With foreign names, suspicious looks and
odors rank enough;
Let them eat those airy pastry puffs they
think so very nice,
Because they've got outlandish names and
cost a mighty price—
But say, to curb your appetite, and your
stomach satisfy
There's nothing like a great big chunk of
Yankee pumpkin pie!

Roast beef may have more nutriment,
more body-building worth;
Veal, mutton, lamb, be nourishing, and
stretching of your girth:
Your chicken, duck or turkey may suit
palates very fine—
But these can take a back seat when I'm
passing down the line.
Fish, flesh and fowl may serve to stay the
appetites of some;
But you must treat me better when I to
your table come.
Leave out the high-toned viands, let each
dainty dish go by—
If I can get my face fast in a piece of
pumpkin pie!

—John S. Grey, in N. Y. Tribune.

Libby the Unloved.

Libby Anderson hung the dishcloth on its accustomed nail and stood there surveying it. It was plain, from the way she looked, that she had determined to speak.

"Ma," she asked of the woman who was sitting before the little round stove, "what were those papers Dave put in his pocket as I came in?"

"Some things he was showin' me."

"Ma," she asked, quiveringly, "you didn't sign anything, did you?"

"I didn't sign your name to anything." And the needles clashed again.

She knew her mother too well to press further.

"I just couldn't understand Dave coming here this time of year," she ventured, "and I thought he acted queer."

The old woman was folding her knitting.

"I'm going to bed, and you'd better come along, too," was her reply.

A week went by, and although Libby had twice forgotten to feed the chickens, and had several times let the kettle burn dry, she was beginning to feel more settled in her mind.

She did up the work one morning and went to town.

Her first call was at the solicitor's, and here she heard the worst. Ma had assigned her home to Dave. She did not make any fuss; she was too old-fashioned for hysterics.

It was not until the old place came in sight that she broke down.

"It's not fair," she cried out, "when I've stayed here and worked—it's not fair!" And for the first time in many years she was crying—passionately crying.

It was a feeling of outraged justice that made her speak, for she was just a woman—the daughter of pa.

"Ma," she said, "do you think pa would like to think of your assigning the place to Dave, when I've stayed here and kept it up the best I could for twenty years?"

The old woman put down her knitting.

"La, now, Libby," she said, not unkindly, "don't take on. You'll never want for nothin'!"

Libby stood there looking at her.

"I think you don't realize what you've done," she said; and turned to the bedroom to take off her things.

It was not until the next month, the blustering month of March, that all was made clear. It was early in the afternoon when Libby looked from the window and saw a man coming in at the big gate.

"That friend of Dave's from the city is coming, ma," she said.

"Gracious!" exclaimed Mrs. Anderson, "and such a day as 't is!"

The stranger warmed his hands and disbursed a number of pleasantries.

"Well, Mrs. Anderson," he said, finally, "your son wants to make a little proposition to you."

Mrs. Anderson looked pleasantly expectant.

"Dave's always makin' propositions," she chuckled.

"He's been a good deal worried about you this winter—afraid you were not just comfortable out here—you two, all alone."

"Dave's always thinkin' of his mother's comfort," she asserted, and looked triumphantly over to Libby.

"Well," he resumed, turning back to the older woman, "it worries Dave to think of your being out here alone now that you're getting along in years, so he's rented a nice little place in town, and he feels sure it would be better all around if you'd just go in and take it."

"If that ain't for all the world like Dave—always some new idea in his head! But you just tell him, Mr. Murray, not to be bothering. We don't want to move to town—do we, Libby?"

"Not if we can help it," she replied.

"Dave's been away from the place so long that he don't see just how 'it is," ma explained. "Libby and me wouldn't feel at home no place else."

"It's too bad you feel that way," he went on, persuasively, "for Dave was so sure you'd like the idea that he has gone ahead and made all arrangements, and I'm afraid there might be a little trouble about unmaking them."

He turned to Libby.

"How soon do you think you could move—by the first of May?"

"I suppose so," she answered, in a dull voice.

April came, and for the fiftieth time the old woman watched the white give way to the green on the hills that curved in and out around her old home.

As long as she could, Libby let her have her dream. Her heart was not hard toward ma now. Ma had not understood. And Libby was glad she could have those few spring days before she was torn from her old home.

"Ma," she began one morning, "I think I will have to be packing up this week."

"Packing up what?"

"Why, don't you remember, ma, we're going to town the first of May?"

"Oh, la, Libby, I've give that up long ago! I'm going to die on the old place."

"But you know, ma, the arrangements have all been made. I'm afraid we'll have to go."

She turned to her crossly.

"There's no use to argue wi' me, Libby Anderson. I ain't goin'!"

"But what about Dave?"

"You can jest write Dave and say his mother don't want to leave the place. Dave won't have nothin' further to say."

She looked off at the meadowland as if it were all settled. Libby would have to tell her.

"Ma," she said, "it's no use to write to Dave."

"Why not?" she demanded, in a half-frightened, half-agressive voice.

"He's sold the place, ma."

"What's that you say? Something about Dave selling my place? Are you gone crazy, Libby?"

"You know you deeded it to him, ma. It was his after you did that. And he's sold it, and we'll have to move out."

Hearing no answer, she turned around, and it was then she coveted Dave's gift of saying things smoothly. The old woman was crouched low in her chair, and her face was quivering and looked sunken and gray.

"I didn't think he'd do that," she faltered.

"Never mind, ma," Libby said awkwardly. "Poor ma."

It was the nearest to a caress that had passed between them since Libby was a little girl.

Nothing more was said until after ma had gone to bed. Libby supposed she was asleep, when she called quaveringly to her.

"Libby," she said, "you mustn't be thinkin' hard of Dave. He must have thought it for the best."

Libby was used to caring for ma, and she needed care now.

"Yes, ma," she answered; "I'm sure he must."

It was not until the morning of the fourth day that the silence between them was broken. Libby got up to take down the clock, when she heard a strange noise behind her, and, turning, she saw that ma's head was down low in her hands, and she was rocking passionately back and forward, and crying as though her old heart had broken.

She put down the clock, and again she wished for a little of Dave's silkiness of speech. But she did not have it, and the best she could do was to pull ma's chair out from the barren room into the sunshine of the porch. The hills, she thought would still look like home.

Ma did not get up at all next day. Perhaps she was ill, or perhaps it was only that she did not want to go out in the sitting-room and see how unlike home it looked. But the next day she did not get up either, and then Libby went to town for the doctor. He said the excitement had weakened her, and did not seem very certain she would ever get up again. That night Libby wrote a letter to Dave, asking him to let his mother die on the old place. A week passed, and an answer had not come, and still ma had not left her bed. The packing was all done, it was the first of May, and she was just waiting—she did not know for what.

Her whole soul rose up against moving ma from the old place now, when her days were so surely numbered; and so she sent a telegram to Dave, telling him his mother was ill, and asking leave to stay a little longer. There came a reply from his pardner, saying that Dave was away and would not be home for two weeks.

That night the old woman raised herself and sobbed out the truth.

"It's Dave that's killing me! It's to think Dave sold the place and turned me out to die!"

And then the way opened before Libby, and she saw her path.

The disinherited child wrote a letter that night, and to it she signed her brother's name. Out in the world they might have applied to it an ugly word, but Libby was only caring for ma. She was a long time about it, for it was hard to put things in Dave's round, bold hand, and it was hard to say them in his silky way.

The doctor said next morning that it was a matter of but a few days at most, for ma was much worse.

"It ain't that I'm goin' to die," she said, when Libby came in and found her crying; "but I was thinkin' of Dave. I keep thinkin' and thinkin' of him when he was a little boy, and how pretty he used to look; and then, just as I begin to take a little comfort in rememberin' some of the smart things he said, I have to think of what he has done, and it does seem like he might have waited till—" But the words were too bitter to be spoken, and, with a hard, scraping sound in her throat, she turned her face to the wall.

Libby put her hand to something in her pocket, and thought of last night's work with thankfulness.

About eleven o'clock she entered the room with the sheets of a letter in her hand.

"Ma," she said, tremulously, "here's a letter just come from Dave."

"I knew it'd come—I knew it!" And the old voice filled the room with its triumphant ring. Then there crept into her face an anxious look. "What does he say?"

"He's sorry about selling the place, ma. He really thought you'd like it better in town. But he's fixed it up for us to stay. He says you'll never have to leave the place."

"I knowed it—I knowed it well enough! You don't know Dave like I do. But read me the letter."

She did read it, and the old woman listened with tears—glad tears now—falling over her withered cheeks.

"You can just unpack our things," she cried, when it was finished, "and get this place straightened out. The idea of your packin' up, and think we was goin' to move to town! Nice mess you've made of it! Jest as if Dave would hear of us leavin' the place. I always knowed you'd never 'preciated Dave."

Before morning broke ma was dead. Happy, because she had back her old faith in Dave—the blind, beautiful faith of the mother in the son. And Libby—the homeless and unloved Libby—was happy, too, for she had finished well her work of caring for ma.—Answers.

Cooking Mushrooms.

A correspondent asks for easy ways to cook mushrooms. Mushrooms are at at their best when cooked simply, and it is worth while knowing how to use them. A pound of large mushrooms will make an entree for a dinner for six people. Wash the mushrooms and pare off the outer skin with a silver knife. Cut off the stem and cut the mushrooms in two pieces. Place them in a china dish and pour over them this marinate: A tablespoonful of olive oil, a pinch of salt and the same of white pepper. Let the mushrooms lie in the marinate for a full hour. Take them out and saute—there will be almost enough oil in the dish without the addition of more—for six minutes. Make a sauce of three tablespoonfuls of oil, a teaspoonful of finely minced parsley, the same quantity of chopped chives and a little chopped onion. Let this cook for five minutes and pour over the mushrooms just before serving.

A simple saute still is possible. Pare, but do not cut the mushrooms. Place them in a dish and sprinkle a little salt over them. Take them out after half an hour and saute and butter. Cover the pan and let the mushrooms cook for about ten minutes, shaking them to prevent burning. Add to the liquor left in the bowl salt, pepper, the juice of half a lemon, and a little chopped parsley. Pour this in the pan with the mushrooms, shake up well and serve on sippets of toast. This is also a good chafing-dish recipe.

Broiled mushrooms are delicious and quite easy to prepare. Pare the mushrooms, wash and dry thoroughly. Sprinkle them with pepper, salt and a tablespoonful of oil. Place in a wire broiler and cook over a clear flame for four minutes to a side. Serve on toast with maitre d'hotel butter.—New York Evening Post.

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Feminine Figures.

Arithmetic 'tis well to shun,
Of puzzles it has plenty;
For instance, I was twenty-one,
When Madge was sweet and twenty.

Old Time, as fast as the seasons flew,
Worked on me with his leaven;
I felt the weight of thirty-two
When Madge was twenty-seven.

The marvel grew to huge estate,
Madge proved of time so thrifty,
Remaining simple thirty-eight,
Long after I'd turned fifty.

My brain is turned in awful whirls
By mathematics' rigors,
And who shall now maintain that girls
Have no control of figures.

—Punch.

Satisfied.

I don't think I would care to change
This old world if I could.
What could be sweeter than the songs
Of wild birds in the wood?
Or prettier than sweet sixteen?
More grand than matronhood?
Oh, no, I wouldn't change the world
At all; not if I could.

Could I improve a baby's laugh?
Add sweetness to the look
A mother gives her little brood?
Add beauty to the brook?
I would not dare nor care to try;
Sky, wood and plain, and dell,
Are good enough for me, I guess;
They suit me pretty well.

—Houston Post.

Domestic Hints.

DELICATE CABBAGE. — Remove all defective leaves, quarter and cut as for coarse slaw, cover well with cold water and let remain several hours before cooking, then drain and put into pot with enough boiling water to cover; boil until thoroughly cooked (which will generally require about forty-five minutes). Add salt ten or fifteen minutes before removing from fire, and when done, take up into a collander, press out the water well and season with butter and pepper, or with a cream dressing poured over it.

LADY FINGERS.—Beat together until very light ten eggs and one pound of powdered sugar. Sift and stir in slowly a pound and an eighth of flour, with one teaspoonful of baking powder. Then with a funnel of strong brown paper, lay the mixture out upon paper-lined (but not greased) tins in strips 3 inches long and ½ inch thick; sprinkle with granulated sugar and bake a light brown in a quick oven. When cool, brush over the under side of the paper with water, remove the cakes and join them in pairs, back to back. Serve with ice cream or other ices.

EGLANTINE.—Heat to boiling point three pints of clear white stock (veal or chicken), season with a teaspoonful and a half of salt, four shakes of white pepper and a saltspoonful each of powdered cinnamon and nutmeg. Add spinach extract to tint to a rich green, and serve on shallow plates with snowball garnish. To make the last named, beat the white of one egg to a stiff froth, add a cupful of whipped cream, a pinch of salt, and half a teaspoonful of lemon juice. Shape into balls with two dessert spoons and place gently on each portion of soup, which must be boiling hot.

HOME-MADE COUGH DROPS.—An excellent recipe for cough candy, or troches, calls for one ounce each of powdered licorice, gum arabic and powdered cubebs, one dram of oil of anise, one-third ounce of oil of cubebs and half a pound of pulverized sugar. Mix all together and moisten the whole with barely enough warm water to make a very stiff mass. Dust a smooth board with powdered licorice and roll out as thin as pie crust. Cut this thin layer into round candies with a silver thimble, and put them into a cold, dry place for a day or two to harden. When firm put them into a neat candy box and keep it in the corner of the medicine chest, to use when needed. One troche every half hour will help to relieve tickling of the throat or a lingering cough. Let it dissolve in the mouth. Children are apt to be fond of licorice, and will willingly take these harmless candies when they have irritating little coughs.

TOMATO JELLY SALAD.—Take the contents of a quart can of prime tomatoes and add one small sliced onion, six cloves (if preferred the cloves can be omitted), one-half a cupful of finely chopped celery, and boil for half an hour; then strain, season to taste with salt and a dash of paprika, and then add one-thord of a box of gelatine dissolved in a little of the boiling liquid; pour into small cups — after-dinner coffee cups are of a good size—and set away to cool. When ready to use turn out of the cups on a bed of lettuce leaves and serve with thick mayonnaise poured around.

Hints to Housekeepers.

The vinegar cruet which needs filling seldom should be put into a closed closet after each meal. Light renders vinegar tasteless and takes away its snap.

A delicious warmed-over dish may be made by mincing the cold remnants of the calf's head and heating them in a sauce made with the liquor in which the meat cooked.

It is well to know that if salt fish is wanted quickly the fish is freshened much sooner if soaked in milk, milk that is turned being as good for the purpose as the fresh milk.

Grease spots on wall paper will usually yield to an application of fuller's earth made into a thin paste with ammonia water. Leave it on the spot until the paste is dry.

Few persons know that an ordinary gas jet will consume as much oxygen as four human beings. It is, therefore, well to remember when sitting long in a gas-lighted room to continually open a door or a window for a few moments and bring in some fresh air.

Here is a wrinkle, says a late magazine, for cleaning laces at home. You must often have despaired of getting your lace that delightfully dingy yet clean color which you see in the shops. Make some very weak tea and add a few drops of India ink (the best) to the tea. Dip in your lace.

Grapes, pears and a number of fall fruits can be kept for winter use very nicely by packing them in sawdust. Of course, wipe them off carefully with dry, soft cloths, taking only the fruit that has just turned and not any that is dead ripe. The sawdust should completely cover every particle of the fruit so that the air is entirely shut out.

Cold cauliflower makes an excellent salad, either with a maynonaise or a French dressing. Sprinkle the flowerettes with salt, pepper and minced parsley before pouring on the dressing. If French dressing is used, it had better be mixed before pouring on, as the flowerettes are liable to break if they are tossed in the usual manner.

An excellent preventive of influenza is said to be found in adding a few drops of eucalyptus oil to every pail of hot water used in cleaning the woodwork of a house and to the water in which the broom is frevuently dipped when sweeping the carpets. Turpentine may be used if preferred in place of the eucalyptus. The whole house in this way becomes disinfected.

A simple and sure way of making good coffee is to allow one rounded tablespoonful of coffee to each half pint of water. Mix with the white of one egg and a little cold water. Then pour over the boiling water. Bring quickly to a boil and allow it to continue boiling for three minutes, throwing in a little cold water as soon as it is done. Let stand a moment and settle, then pour.

It is sometimes desirable to give children cooked milk, and as they usually dislike the taste, it is well to know that the change in taste caused by heating can be in a measure overcome by quick chilling. The scum which rises to the top when milk is cooked contains much nutritive value which it is not desirable to lose. Beat the scalded milk with an egg beater to mingle the scum with the milk.

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How to Dress a Turkey.

Every housekeeper is supposed to know how to dress a fowl, yet it is in such simple things as this that the average cook fails. The first thing to be done is to singe the bird by holding it over blazing paper. This is to remove the long hairs found on every fowl over a year old. To draw the bird, open the vent and loosen the two muscles that hold the viscera in place. Also loosen the crop and pipes at the neck, and, passing the hand up the back, draw out the mass without separating it. If this is done carefully there is no danger of breaking the gall bladder. Butchers often spoil good fowls by doing this, and it is, therefore, better to purchase the bird undrawn.

Cut the oil bag carefully from the tail and take out every particle of it, as it imparts a strong odor. If there are large pin feathers take them out with the point of a knife, and also take out every part of the windpipe, lights, crop and kidneys.

Turn the skin back at the neck and cut off the neck close to the body. Draw out the tendons from the drumstick with a dull pointed skewer or fork. If the bird is freshly killed this can easily be done, but there is always one large tendon that refuses to come out. The flesh of the drumstick is very much more tender if this is done, and if the cook intends to draw out the tendons the butcher should not be allowed to chop off the feet at the joint, as he will be sure to do if not prevented. After the feet are once chopped off it will be impossible to draw out the sinews, and the drumstick will be the toughest portion of the bird. Butchers in New York markets will generally draw out the sinews themselves when requested beforehand, but the average butcher seems to be in haste to chop off the feet, apparently to avoid being asked to remove the sinews.

All the fat on the inside of the fowl should be removed. In a turkey, goose or a duck the fat is too strong for cooking. Chicken fat, however, is excellent for shortening and frying, and makes an excellent mayonnaise dressing, being considered even more delicate for that purpose than oil.

After the turkey has been stuffed skewer the drumsticks down to the tail, and fasten the skin of the neck down to the bone to hold the stuffing in. Skewer the wings close to the body with a long skewer, and with firm twine tie this skewer to the one that holds the drumsticks. If these skewers are properly put in it will not be necessary to sew up the bird.

It should not be necessary to remind a housekeeper that all fowls, whether turkeys, ducks, geese or chickens, and whether intended for frying, boiling, roasting or broiling, should be left to hang at least twenty-four hours, or until the muscles have completely relaxed after death. There is usually no danger that fowls will be cooked too soon after they have been killed, except in the country, where housekeepers often do not hang them at all, but transfer them in two or three hours from the poultry yard to the pot.

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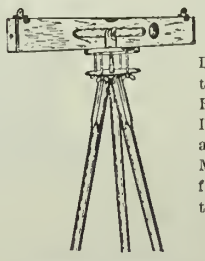
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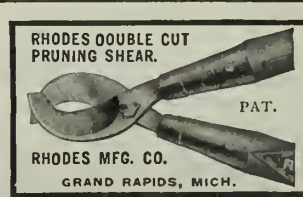


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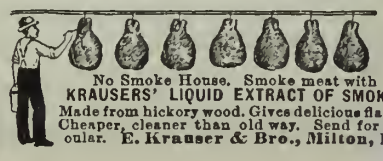
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The Blues.

There are persons who deny ever having the blues, but as a rule they confuse the term with hysteria and womanish fits of sulks. They do not call their own fits of depression the blues, but fit them with some more high sounding name. But the blues, nevertheless, are a distinct mental affliction to which humanity generally is subject.

The blues have no special reason for being unless the old-time idea is right that they come from a disordered state of the liver. That the liver is closely connected with the mental attitude resulting from an attack of the blues is indicated by the fact that dyspeptics are as a general thing morose and given to brooding. But this does not hold good in all cases, for there are some notably cheerful dyspeptics, who joke over their enforced dieting and their lack of flesh.

The active grief that follows a bereavement or fit of illness or business trouble is in no way the same thing as the depression that comes up when there is a clear sky and envelopes everything in its fog. The one has a reason for being, the other is not so much a rebellion against conditions as a general tiredness of life, its duties, joys and sorrows. It is the condition which in many cases produces suicides otherwise unexplainable.

So says a clever woman doctor, who points out that, oddly enough, in hospitals the blues are not common among the patients and convalescents. There is too much of real suffering to admit of the brooding, self-analyzing condition that attacks people without reason in the world outside.

The weather, she says, is one of the principal inviters of blues. A week of bad weather increases suicides and fills people with despondency. In many cases it is inseparable from a despondent state of mind. The east wind has always been accused of producing low spirits.

But on the other hand people can inherit the brooding and gloomy temperament just as they inherit sharp wits or dull ones, kindly dispositions or the reverse. There are some who begin as children to complain and whine over their small troubles, and if the habit is allowed to grow they find that life is a bore to them before they reach maturity.

But to doctors, the blues are simply one of the symptoms of the general nerve tiredness from which Americans suffer so much. They come from overwork and very often follow periods of dissipation.

The entirely healthy person will suffer griefs, disappointments and discouragements without ever experiencing the hopeless, nerveless condition that people call the blues. People who eat improperly and live on a schedule which turns night into day are the ones that are most subject to this dread complaint.

People may worry over the troubles of others and suffer considerably on their account, but this is not the blues. The blues are always from within and they can be thrown off or persevered in as the sufferer will. As a rule the people most subject to them are women whose home duties keep them shut indoors.

Over sewing or household affairs they will allow their minds to follow up the same old rut of thought, and by evening they are in a mental state which approaches a mild form of insanity.

Doctors recognize the state of despondency as a symptom of various diseases. It is one of the invariable consequences of nerve ailments; but it is also a condition, which, like hysteria, can be greatly aggravated by the patient's giving in to it.

When people learn that it is quite possible to throw off an unwholesome mood there will not be so many people complaining of the blues—which usually consist of a fear of something about to happen, rather than what has happened.

There is an idea that only women have the blues, but men are quite as often the sufferers, and, when they suffer, the attacks are very much more intense than the feminine sort and harder to get rid of. Gamblers regard the blues as a sure indication that their luck is going against them, and as a rule they cease to bet, or make very small bets, until the sun begins to shine for them again.

When the blues are of short duration, easily dispersed, they do not count for much, but when they seem to have come to stay and everything tends to make life seem less worth living, it is a pretty sure indication that something is wrong with the physical condition.

So it is a wise idea to find out if anything is wrong with the body which produces the mental disquiet. The end of some fits of this sort is an attack of typhoid fever or malerial fever leading to typhoid. Despondency is one of the surest symptoms of malaria in the system.

Grip is also succeeded by an intense depression of spirits in many cases, even with children, who lose interest in their games and their companions after they have had an attack of this disease.

Change of scene is always a good prescription for low spirits, but when a trip to Europe or Bermuda is not possible, it is always a good idea to change, as far as possible, the routine of the day. Eat different foods, travel by other routes, seek change in the manner of living just as far as circumstances will allow.

The theater is also considered a rather good remedy when the play is a musical comedy of the light and frivolous order. There is no doubt that such plays are aids in bringing people back to a normal mental state, although they may not relish this form of amusement ordinarily.—N. Y. Sun.

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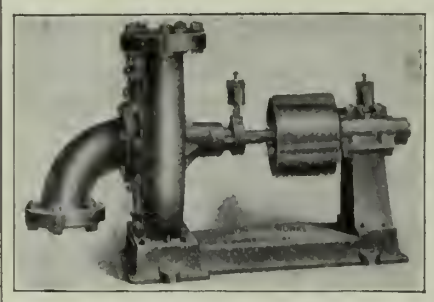
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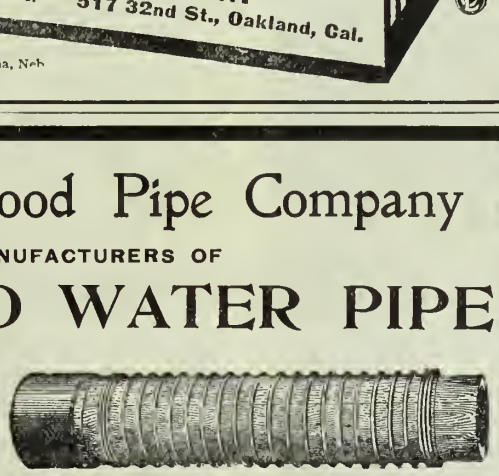
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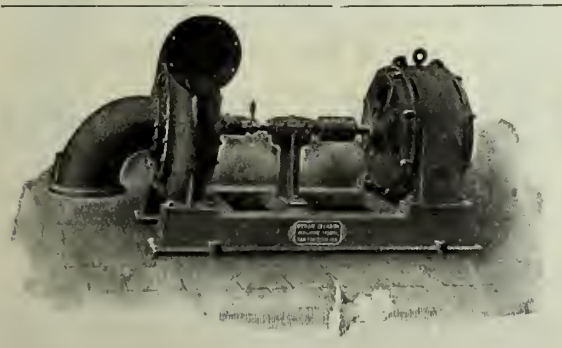
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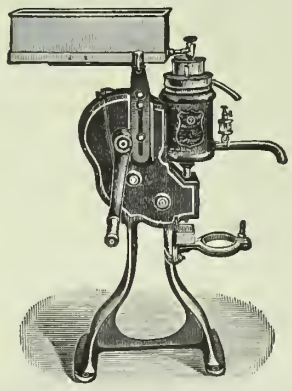
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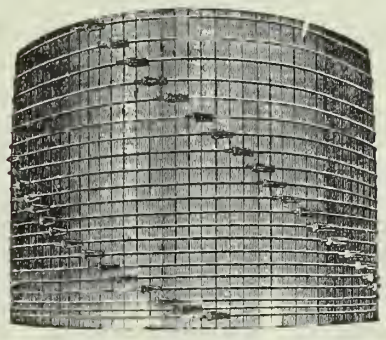
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Life in the Yukon Basin.

The impression which most people have of Alaska is that of a vast wilderness, great mountains and desolate valleys, buried beneath a mantle of eternal snow. In midwinter this idea is not far from correct, but in summer the snow disappears, excepting from the mountain tops, and the valleys are bathed in the warm sunshine of the long Arctic days.

The climatic conditions on the coast of Alaska and those of the interior are widely different. On the coast the rainfall and snowfall are abundant. At Sitka, for instance, the annual rainfall for a period of seven years, during which careful record was kept, was 111.7 inches, and at Juneau 94 inches.

The temperature on the coast rarely falls much below zero, but this is due to the warm water of the Japanese current, which greatly modifies the temperature along the coast, and also induces the heavy rain and snowfall on the coast. In the interior, however, beyond the great range of mountains, conditions are very different, almost as different as those of the California coast as compared with the climate of the Great Basin beyond the Sierra Nevada mountains. The climate of the interior of Alaska is dry and the range of temperature is much greater than on the coast, but the intense cold of winter is not so great a drawback to a comfortable existence as may be supposed, owing to the dryness of the air. In this respect it is not very unlike the winters of Montana, the Dakotas, Wyoming or Colorado. The accompanying illustrations indicate that a home in the Yukon basin can be made habitable, comfortable, attractive and homelike. It is true that few go to Alaska with the expectation of remaining there the rest of their days, but for the purpose of accumulating a fortune in a few years, by taking advantage of the unusual opportunities presented. As a result, houses are usually built of logs, like the cabins here illustrated, sometimes hewn, as in this instance, but often without attempt at unnecessary display or ornamentation. That a log cabin can be made a comfortable place to pass a few years is clearly indicated by the interior of the cabin shown. Many of the household necessities and even luxuries are seen to have been taken into that far north region, showing that one who determines to make Alaska their home for a time need not be compelled to live in a house of ice, the interior of which is reached by crawling upon hands and knees through a low passage, such as the Esquimaux are supposed to inhabit beyond the Arctic circle. Windows are conspicuous by their absence.



A Yukon Home—Taken Nov. 19, 1904.



Interior of a Yukon Home.

The summer season, when outdoor work can be economically done, is short, while the winters are long and cold. In ordinary years the ice in the streams of the interior breaks up by the middle of May, and by June 1 the floods are mostly over and miners promptly begin work. By the last of September the winter gives warning of its rapid approach. The ground first freezes, then the streams turn to ice.

A few attempts have been made at gardening in the Yukon basin, with the result that good-sized potatoes, turnips and matured cabbages have been obtained. The shortness and uncertainty of the summer season is such that there is never any assurance that a crop will mature. Grazing is limited to the few short months of July, August and September.

The people who go to Alaska are of the kind who are energetic, self-reliant and skilled in one way or another, and this class of people do things, as the production of the country abundantly testifies.

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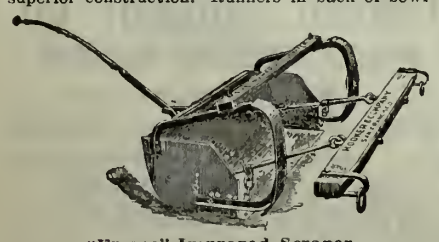
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National Irrigation Congress.

By Mr. Emmet Barber, at Tulare Grange, Dec. 17th, and By Vote of the Grange, and Furnished for Publication in the Pacific Rural Press.

To the people of Tulare county, California: Having been delegated by Tulare Grange No. 198, of Tulare county and of the city of Tularo, I feol it my duty to make a report of what was done at the 12th National Irrigation Congress, held at El Paso, Tex., Nov. 15th to 18th, 1904.

At the beginning of the congress on the morning of the 15th, there were over 400 delegates with credentials reported, and nearly 200 more came in beforo the close of the congress. Over thirty of the Statss were represented, some of them with large delegations, but a few of the countios of California had any representation, Los Angeles having the largest.

The morning session was mostly taken up with organization addresses of welcome and responsos, after which letters and tolegrams from President Roosevelt of the United States, President Dias of Mexico, Governors of different States, both of the United States and Mexico, United States Senators and Representatives, membors of the Cabinet of the United States, and other distinguished men were read. These exercises took up most of the day and evening, after which the order of exercisos was announced for tho socond day.

The Sections.—The congross having so many subjects to discuss in its short session, it was convenod the second day in sections, which met in differont halls. Hall No. 1 was the new hall erected by the people of El Paso, of corrugated iron, at an oxpense of about $5000, especially for the congress, and seating about 6000 people.

The section "Production by Irrigation," division A, met in this hall, and was presided over by I. D. O'Donnel, Billings, Mont. Division B was presided over by E. B. Andrews, chancellor of the University of Nebraska. Division C was presided over by Herbert Morrick, editor of the American Agriculturist of New York.

The section on "Engineering and Mechanics" met in hall No. 2, which was the large court room in the county courthouse, and was presided over by F. H. Newell, chief engineer of tho United States Reclamation Service, Washington, D. C.

The section on "Climatology" was prosided over by H. E. Williams of Washington, D. C., Assistant Chief U. S. Weather Bureau, which mot in anothor large room in the county courthouso.

The section on "Forestry," Gifford Pinchot, Chief Forester of the United States, chairman, met in the court room of the El Paso city hall.

The section on "Rural Settlement," W. E. Smytho of San Diego chairman, hold their sessions in tho city hall.

The Meetings.—All of these sessions were well attended by the delegates and many visitors, showing much interest in all the subjects discussed.

Important and interesting papers wore read and a general discussion entered into on all questions brought forth by the congress.

No one can conceive the importance of this great educational work without attending one of these congresses, nor can you conceive of tho great work mapped out and in course of construction by the United States, through the influencos of these congresses, in the western part of the United Statos called the arid regions.

Enterprises.—To give some idea of what the Government is doing and preparing to do, I will namo a few of the important items: They have now available for irrigation works in the Treasury over $27,000,000, appropriated and set asido for irrigation surveys and construction; this is to be expended under the direction and management of tho Reclamation Department of the United Statos, which has a very highly educatod and experioncod corps of engineers, who look out for the interest of the people and see that no schemes are carried through under their management for which there is not value received; all kinds of private schemes have been proposed and turned down by the Government, as not being feasible or too exponsive for the benefits derived, through the influenco of these engineers.

There are now in course of construction by the Government reservoirs in Nevada and California, using Lake Tahoe as a reservoir, by raising the banks of the lake at the lowest points, taking the water down the Truckee river, and making other reservoirs at the following places: Donner lake, Independence lake, Twin Valley, Little Truckee, Henness Pass and Dog valley, at a total cost of reservoirs, canals and all head works of $1,519,232, which would furnish sufficient water for irrigating 178,000 acres, and furnish enough power for electricity equal to 23,600 H. P., not including 4100 H. P. now in use.

The Government is also constructing another system in the Salt River valley, Arizona. Reservoirs are being constructed and dams built across Salt river at a cost of $1,908,387, which will give a capacity of 840,000 acro feet, or sufficient water to irrigate 500,000 acres after deducting the ovaporation and seepage.

This is simply a beginning of what the Government will do in future, as there were exhibited at the congress num erous maps and estimates of surveys and reservoirs and other irrigation and roclamation works that demonstratos the vast work to be carried on by the Government in the near future.

Proposed Enterprises.—I will name a few of the maps exhibited and ostimates given to show the magnitude of tho proposed works and the way and manner it is carried out by the Government.

The Elophant butte dam, on the Rio Grande river in Arizona, is located about 100 miles above El Paso, and is to be a masonry dam 100 feet high and will make a reservoir sufficient to hold water to irrigato about 180,000 acros of land in Arizona, Toxas and Mexico (the government of Mexico agreoing to pay for her share of storing tho water for the land irrigated, which is estimated will be about 20,000 acres below El Paso). This reservoir is estimated to cost, with the large canals and dams across the Rio Grande river for diverting the water at differont points, about $1,250,000.

Anothor important project is for northern California and southern Oregon. This is intended to take water from the Klamath lakos and river by means of dams and canals, sufficient water to irrigate from 500,000 to 700,000 acros both in California and Oregon. This will cost about $1,500,000, or between $2 and $3 an acre, to furnish the water for the land, not including the cost of irrigation.

The Government is also preparing to dam across the Colorado river, about 4 miles above Yuma, and tako out sufficient water to irrigate 50,000 acres in California, and the Yuma Indian Reservation in Arizona, comprising about 10,000 acres.

There are other schemes that the Govornment will soon undertake, which will be for the purpose of irrigating about 700,000 acres in Humboldt valley, Nev.; also ono in Wyoming, by tho construction of a mountain reservoir, with a capacity of 1,000,000 acre-feet, two diversion dams, and two canals, each 100 miles long, to irrigate 300,000 acres of land. The project is to build a dam 200 foot high, and the whole scheme is estimatod to cost $1,000,000.

Many other plans aro in contemplation, and the surveys are now boing made, or are to be made, undor the management of the United States Geological surveyors, of which C. D. Walcott is director and F. H. Newell, hydrographer, are in charge of all surveys, with a large and efficient corps of assistant engineers.

The Field.—Tho influenco of the National Irrigation congresses, of which the one at El Paso in November was the twelfth, can only bo approciated when we see the vast work that is now under construction and in contemplation, by the United States Government, brought about principally by these irrigation congresses, which have worked faithfully, without "foe or reward," except for the benefit of all the people living in the "arid West."

Many other subjects wero advanced and discussed, for tho benefit, enlightenment and advancement of the whole country, and the progress of the United Statos in wealth, educatlon and advancement is astonishing to the older countries of the world.

California seemed to be better provided with water and irrigation works than most of the other States and Territories, but she is not to be neglected by tho Government, as many surveys and estimates have been made and are being made, among which are reservoir sites, one on Kings river and one on the Kaweah rivor, and will probably be constructed within a few years.

The Government is also experimenting and investigating the plan and methods of irrigating from wells, both artesian and surface wells, and have put down many wells in North Dakota, South Dakota, Nebraska, Kansas and Oklahoma, where sufficient water cannot be obtained from tho adjacent streams for irrigation.

The underground waters was discussed and a paper read from W. C. Mendenhall, geologist, and the discussion which followed demonstrated that there was a limit to irrigation from wells, especially in dry seasons, and in desert parts of the country, where the rainfall was very small.

Forestry.—The question of forestry was considered a very important mattor to bo looked after, and the Government is now preparing to reforest as much of the denuded sections of the arid regions as possiblo with the aid of the different Statos and localities. The ravages made by the lumbermen and the fires are doing much to doprive the desert lands of sufficient water for tho growth of abundant crops. Reclamation of alkali soils was discussed, and a paper read by Prof. C. W. Dorsey, expert Bureau of Soils, United States Department of Agriculture, and the different experiments explained.

Owing to the diversified subjects and tho largo number of subjects brought forth, it was difficult to attend the numerous sections of the congress and hear tho different subjects discussed, but there will be a full and complete report of the congress published, and any one interostod can obtain a copy after they are out by sending to the proper authorities, which will bo known later.

The reports and maps of all surveys and estimates are published, and can be obtained by parties interested by writing to Hon. Charles D. Walcott, Director United States Geological Survoy, Washington, D. C., Interior Department.

I have many of theso roports which have been publishod during the past ten years, and find them very interesting roading, and thoy should be in the hands of all engineers interested in irrigation, as it enables them to know what our general Governmont is constantly doing for us on the irrigation subject.

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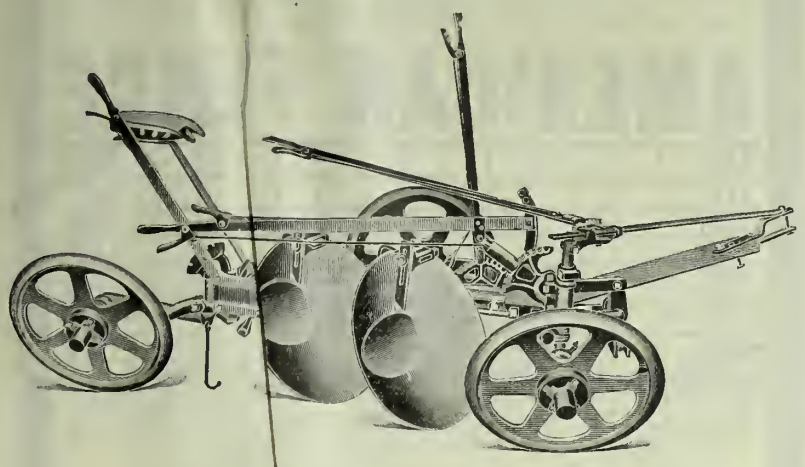
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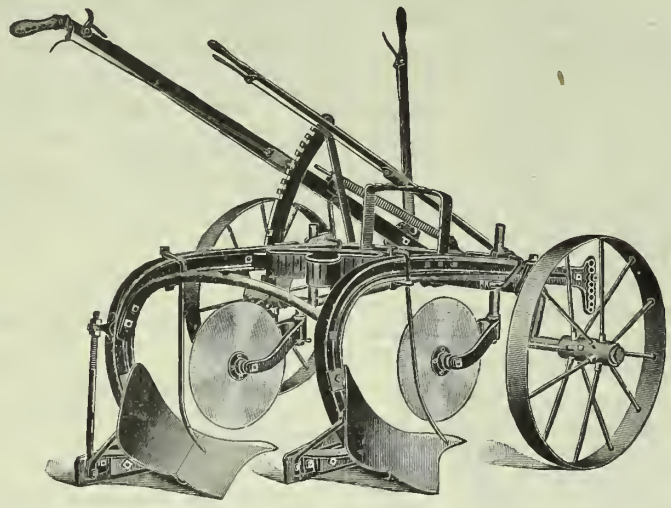
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The Markets.

San Francisco Produce Report.

San Francisco, December 28, 1904.

CHICAGO WHEAT FUTURES.

Wheat futures in Chicago were as follows for the week named, price being for No. 2 Red per bushel:

	May.	July.
Wednesday	$1 10⅝@1 12	98½@ 98⅞
Thursday	1 12⅝@1 11⅞	98⅞@ 98⅛
Friday	1 11¼@1 12⅜	98 @ 98⅝
Saturday	*——@——	——@——
Monday	*——@——	——@——
Tuesday	1 12¼@1 14⅝	99⅜@ 99⅝

CHICAGO CORN FUTURES.

Prices of futures on No. 2 corn per bushel in Chicago were as follows for the week:

	May.	July.
Wednesday	45¼@45⅝	45⅝@45⅞
Thursday	45¾@45⅜	46 @45⅝
Friday	45⅛@45⅝	45⅝@46⅛
Saturday	*——@——	——@——
Monday	*——@——	——@——
Tuesday	45½@45¾	46⅛@46

SAN FRANCISCO WHEAT FUTURES.

The range of values in San Francisco for No. 1 White wheat per cental was as follows:

	May, 1905.	Dec., 1905.
Thursday	$1 43⅞@1 43½	$1 32 @——
Friday	1 43⅛@1 43¾	——@——
Saturday	*——@——	——@——
Monday	*——@——	——@——
Tuesday	1 43¾@1 44¼	——@——
Wednesday	1 44¾@1 44¼	——@——

*Holiday.

Wheat.

The current week has been largely given up to holiday observances and trading in wheat has been of light proportions. The Grain Exchanges of the country stood adjourned from Friday until Tuesday, but if there had been no adjournment and no holidays, there is no likelihood that there would have been any active trading here. Stocks are small, not only in this center, but throughout the State. The loading fleet at present consists of but seven vessels, with a carrying capacity of about 20,000 tons. But some of these ships will take considerable barley and other cargo. According to the clearances made thus far this season, it is not probable that of the above 20,000 tons of cargo, more than one-third will be wheat. Values have been without special fluctuation, but there has been a generally firm tone. Unfavorable crop weather was reported from Argentine. In the northwestern wheat belt of the United States sprouted grain was reported suffering from extremely low temperature. It was rumored that the Treasury Department contemplated allowing Canadian wheat to be imported by millers free of duty, when the wheat is used for mixing with the home product.

California Milling	$1 50	@1 60
Cal. No. 1 shipping, alongside	1 40	@1 42½
No. 1 Oregon Club	1 40	@1 50

PRICES OF FUTURES.

During past week the range on options was:
May, 1905, delivery, $1.43⅛@1.44¼.
December, 1905, delivery, $——@——.
Wednesday, at the forenoon session of Exchange, May, 1905, wheat sold at $1.44¼@1.44¼; December, 1905, $——@——.

Ocean freights and prices for wheat, as compared with a year ago, are as follows:

	1903-04.	1904-05.
Liv. quotations	-s-d@-s-d	-s-d@-s-d
Freight rates	12½@11¼s	16¼@-s
Local market	$1 35@1 37½	$1 40 @1 45

Flour.

There is a fair movement outward, mainly to the Orient and Central and South America. Much of the flour being shipped represents deliveries on contracts. Business on local account is light, and it would be phenomenal to have it otherwise at this time. Stocks are not large, however, and on desirable qualities the prevailing prices are being quite well maintained.

Superfine, lower grades	$3 25	@3 50
Superfine, good to choice	3 50	@3 75
Country grades, extras	4 25	@4 50
Choice and extra choice	4 50	@5 00
Fancy brands, jobbing	5 00	@5 25
Oregon, Bakers' extra	3 75	@4 25
Washington, Bakers' extra	3 75	@4 40

Barley.

Market has not been seriously burdened with offerings of this cereal, especially of No. 1 to choice feed and of desirable export grades. It is understood that considerable barley will be forwarded to the Orient in the near future, and of the fleet now loading for Europe, this cereal will constitute a large portion of the cargoes. That home requirements of the next six or seven months and shipments in the meantime will effect a practical clean-up of the barley remaining in the State is very probable. Prices remain quotably about as last noted, with market firm at current figures. No pronounced fluctuations in values are anticipated during the balance of the season, although to purchase freely at this date, better figures than are warranted as quotations would have to be paid.

Feed, No. 1 to choice	$1 13¾	@1 15
Feed, fair to good	1 11¼	@1 12½
Brewing, No. 1 to choice	1 17½	@1 20
Chevalier, No. 1 to choice	1 20	@1 25
Chevalier, common to fair	1 05	@1 10

Oats.

Market continues firm for feed qualities, with demand fairly active, and stocks of only moderate proportions. Offerings are principally of the lower grades. Choice to select seed oats are in decidedly light supply, and for this sort the market is strong, with trading necessarily of a small jobbing character.

White oats, fancy feed	$1 45	@1 50
White, good to choice	1 40	@1 45
White, poor to fair	1 32½	@1 37½
Milling	1 40	@1 50
Black oats	1 30	@1 65
Red, fair to choice	1 25	@1 50

Corn.

Offerings of new crop corn, especially of common qualities of the large varieties, are in excess of the immediate demand, and market presents a weak tone. Choice old is too scarce to quote and would command comparatively good figures. Spot stocks include considerable California corn, but the bulk of the supplies now here is Eastern product.

Large White, good to choice	$1 25	@1 35
Large Yellow	1 25	@1 35
Small Yellow	1 60	@1 75
Egyptian White	——	@——
Egyptian Brown	——	@——
Eastern, sacked	1 25	@1 30

Rye.

Market is firm at quotably unchanged values, with stocks rather light and in few hands.

Good to choice	$1 42½	@1 47½

Buckwheat.

No recent arrivals and nothing doing in a wholesale way.

Good to choice	$1 75	@2 00

Beans.

Business has been slow, but good to choice beans of all varieties are being, as a rule, very steadily held. There are no large stocks of desirable qualities in this center, and on the same no selling pressure. Some damaged beans are being crowded to sale at figures ranging from $10 per ton to $2 per cental, as to variety and condition, poor whites ruling lowest.

Pea, fair to good, 100 lbs	$2 90	@3 10
Small White, good to choice	3 15	@3 30
Large White	2 35	@2 60
Pinks	3 00	@3 50
Bayos, good to choice	2 50	@2 85
Red Kidneys	4 50	@5 00
Reds	4 00	@4 50
Limas, good to choice	4 10	@4 20
Black-eye Beans	2 40	@2 55

Dried Peas.

Demand is ended for seed, and, as millers have fair stocks, the market is temporarily lifeless, leaving values poorly defined.

Green Peas, California	1 50	@2 00
Garbanzos, Large	3 25	@3 50
Garbanzos, Small	3 00	@3 25
Niles	1 25	@1 75

Hops.

Local market has developed no special changes the past week. There has been little or no attempt on the part of either buyer or seller to transact business, which is to be expected at the mid-winter holiday time. Free buying might necessitate paying above quotations, while if selling pressure were exerted, concessions to buyers would very likely have to be granted. The steamer Ventura, sailing Saturday last, carried 26,217 lbs. hops, mostly for Australia. The New York Producers' Price Current says: "Continued dullness prevails in all markets. In New York State no sales are reported, and we hear the same story from other sections. Brewers are showing absolutely no interest in the situation, and it would appear as if there would be little improvement until after the holidays. Foreign markets also reported as exceedingly quiet." Mail advices from Portland say of the hop market: "Holders seem not so anxious to let go as they were two weeks ago. Standing offers of 29c. for prime hops do not induce either growers or speculators to let go, and some look for a still firmer market after the New Year. It is reported that many of the large brewers of the United States have deferred buying this year's hops until stock is taken in January, and that when the buyers for these brewers appear, hops will take another stride upward."

California, good to choice, 1904 crop	25	@29

Wool.

In the way of transfers from first hands there is little doing at present, for the very substantial reason that the wools are not here to operate upon. Throughout the Middle West and in the Territories dealers are negotiating for the next clip at better figures than have been current the past year. Values here are poorly defined for the time being, quotations being based on latest reported sales. The steamer City of Peking, sailing Saturday last, carried 21,158 lbs. wool for New York.

SPRING.

Northern, free	23	@—
Northern, defective	17	@21
Oregon, good to choice	20	@23
Nevada	16	@21

FALL.

Northern	15	@19
San Joaquin and Southern, free	13	@16
San Joaquin and Southern, defective	9	@11
Southern lambs, as to quality	9	@14

Hay and Straw.

Hay has not been in heavy receipt, but with light demand, the market has been devoid of firmness, and prospects at the moment do not appear encouraging for the development of any special strength in the near future. Under date of the 23rd a wholesale firm reports: "The market continues extremely dull and slow, with practically no sales reported, except such hay as is used from hand to mouth by the retail dealers. Prices remain unchanged from last week's quotations. The supply continues heavier than the demand. We expect these conditions to exist until after the first of the year. The rains of the last couple of days have the effect of rendering things still more quiet."

Wheat, good to choice	$13 00	@ 14 00
Wheat and Oat	10 00	@ 13 00
Tame Oat, fair to choice	8 00	@ 13 00
Wild Oat	8 00	@ 10 00
Barley	9 00	@ 11 00
Alfalfa	9 00	@ 11 50
Clover	7 00	@ 9 00
Stock hay	6 00	@ 7 00
Compressed	11 00	@ 14 00
Straw, ₱ bale	40	@ 55

Millstuffs.

Values for Bran and Middlings have been maintained at about same range as last quoted, with stocks not very heavy, mostly in few hands and very fair demand. Market for Rolled Barley was firm at the quotations. Prices for Milled Corn tended downward, in sympathy with the weakness of the market for the raw product.

Bran, ₱ ton	$19 00	@ 21 00
Middlings	25 00	@ 28 00
Shorts, Oregon	19 00	@ 22 00
Barley, Rolled	24 00	@ 24 50
Cornmeal	31 00	@ 31 50
Cracked Corn	31 50	@ 32 00
Oilcake Meal	31 50	@ 33 00

Seeds.

Market is very quiet, quotable values continuing as last noted. Alfalfa is in faiment and little other than askiug prices Hardly anything doing in this depart- supply, mainly Utah product. Stocks upon which to base quotations. Mustard Seed in this center are small an are almost wholly of the Yellow variet

Flax	$1 75	@ 2 2
Mustard, Yellow	3 50	@ 4 0
Mustard, Trieste	4 50	@ 5 0
		Per 1
Alfalfa	12	@
Canary	6½	@
Rape	1¾	@
Hemp	3½	@
Timothy	5	@

Honey.

There are no heavy quantities offe of either Comb or Extracted, but no than immediate custom can be found at prevailing values. The demand present is very light and is mostly ol.

Extracted, White Liquid	6½
Extracted, Light Amber	5½
Extracted, Amber	4¼
Extracted, Dark Amber	3½
White Comb, 1-frames	12½
Amber Comb	11

Beeswax.

Considering the very limited sales, there is a fair amount of business ing. Values are ruling steady.

Good to choice, light ₱ lb	@30	
Dark	@28	

Live Stock and Meats.

Demand for Beef has been fair tive, and for desirable qualities the mt has been tolerably firm, although in table values there have been no chan Veal was in rather light receipt and irable sizes met with prompt custom ll current figures. Market for Mn was moderately firm for choice otable values continuing as last not Lamb was in good request, choice ry commanding full current values. gs were not in heavy supply, but market lacked firmness, ackers being disposed to operate slowlat prevailing values.

Allowing for the shrinkage of about 50%, which is exacted buying cattle on the hoof, live cattle command much or more per pound than dressed beef, the shrinkage exacted being the slaughterers' profit.

The following quotations for beef and mutton are based on prices realized by slaughterers from wholesale dealers:

Beef, 1st quality, dressed, net ₱ lb	6½@ 7
Beef, 2nd quality	5½@ 6
Beef, 3rd quality	4½@ 5
Mutton-ewes, 6½@7½c; wethers	7 @ 8
Hogs, in grain, 140 to 250 lbs	5½@ 5¾
Hogs, light, hard, over 250 pounds	4⅝@ 4¾
Hogs, soft, fat	4¾@ 5
Veal, large, ₱ lb	6½@ 8
Veal, small, ₱ lb	8 @ 9½
Lamb, spring, ₱ lb	8½@ 9½

Hides, Skins and Tallow.

Note that select hides, clean and trimmed will be full figures. Culls of all kinds, either from cuts, hair slips, side brands or murrain, not always readily placed at the lower figure

	Sound.	Culls.
Heavy Steers, over 56 lbs	— @11	— @10
Medium Steers, 48 to 56 lbs	— @10	— @ 9
Light Steers, under 48 lbs	9 @10	8½@—
Heavy Cow Hides, over 50 lbs	— @10	— @ 9
Light Cow Hides, under 50 lbs	9½@10	8½@ 9
Stags	7 @ 7½	6 @ 6½
Wetted Kip	—@10½	— @ 9½
Wetted Veal	11 @11½	10 @10½
Wetted Calf	11½@12½	10½@11½
Dry Hides	17½@18	16½@17
Drip and Veal, 11 to 16 lbs	— @15	— @13
Dry Calf, under 4 lbs	— @20	— @18
Pelts, long wool, ₱ skin		1 25@1 75
Pelts, medium, ₱ skin		90@1 10
Pelts, short wool, ₱ skin		50@ 75
Pelts, shearling, ₱ skin		15@ 40
Horse Hides, salted, large prime, each		3 00@—
Horse Hides, salted, medium		2 50@—
Horse Hides, salted, small		1 50@—
Horse Hides, dry, large		1 75@—
Horse Hides, dry, medium		1 50@—
Horse Hides, dry, small		1 00@—
Tallow, good quality		4 @4½
Tallow, poorer grades		2½@3½

Bags and Bagging.

Bean Bags	$ 4¾@5
Fruit Sacks, cotton	6½@7½
Fruit Sacks, jute, as to quality	5¾@7
Grain Bags, Calcutta, 22x36, spot	5¾@—
Grain Bags, Calcutta, buyer June-July	6 @6½
Wool Sacks, 4-lb	32 @—
Wool Sacks, 3¼ lb	30 @—

Poultry.

Immediately following last review and prior to Christmas, there was an excited market for Turkeys, owing to a shortage of supplies of domestic. As high as 32c was asked on Saturday for choice Dressed, and they were not obtainable in large quantity at any figure. Sales of fresh Dressed on Saturday were mainly within range of 25@29c for fairly good to choice. Eastern chilled Turkeys were at same time obtainable at 20@25c for fair to choice. Market has since been more quiet and easier. Fat Chickens, Ducks and Geese brought comparatively good prices the entire week.

Turkeys, Dressed, choice, ₱ lb	$ 25	@	28
Turkeys, live gobblers, ₱ lb	20	@	23
Turkeys, live hens ₱ lb	20	@	23
Hens, California, ₱ dozen	4 00	@	4 50
Hens, large	5 50	@	6 00
Roosters, old	4 00	@	4 50
Roosters, young (full-grown)	5 50	@	6 00
Fryers	4 50	@	5 00
Broilers, large	3 00	@	4 00
Broilers, small to medium	2 00	@	3 00
Ducks, old, ₱ dozen	5 00	@	6 00
Ducks, large young, ₱ dozen	6 00	@	7 00
Geese, ₱ pair	2 25	@	2 50
Goslings, ₱ pair	2 25	@	2 50
Pigeons, old, ₱ dozen	1 00	@	1 25
Pigeons, young	2 00	@	2 50

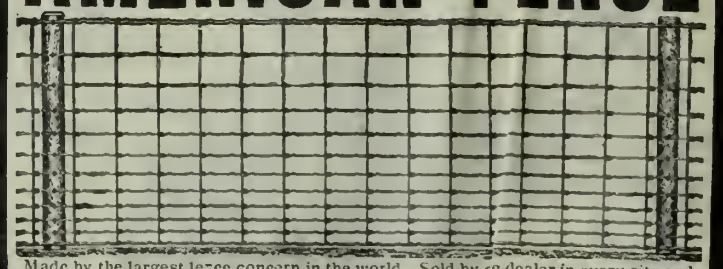
Butter.

The advanced figures established the preceding week checked the demand materially, and as a result receivers have found it necessary to grant marked con-

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cessions to prevent accumulations. Cold-storage supplies are of liberal proportions for this date, held by both jobbers and retailers, and all are anxious to reduce holdings. Some creamery cubes consigned East out of cold storage netted owners 16@17c.

Creamery, extras, ℔ lb	24	@—
Creamery, firsts	22	@23
Creamery, seconds	21	@22
Dairy, select	22	@23
Dairy, firsts	21	@22
Dairy, seconds	19	@20
Mixed Store	12	@13

Cheese.

Market is without special firmness, except for mild-flavored new of superior quality. Stocks are of quite moderate volume, but demand is slow, increased receipts being generally anticipated in the near future.

California, fancy flat, new	11½	@12
California, good to choice	10	@11
California, fair to good	9½	@10
California, "Young Americas"	10	@12½
Eastern	12	@15

Eggs.

There was some increase in arrivals of fresh, and with the demand lighter, asking prices were reduced, receivers being anxious to keep stocks cleaned up, as further breaks in values are looked for after New Years. There are not many high-grade California eggs now in cold storage, but plenty of Eastern and common domestic.

California, select, large, white and lb.	40	@—
California, select, irregular color & size.	32½	@37½
California, good to choice store	27	@32
Eastern firsts	23	@26
Eastern seconds	20	@22

Vegetables.

There were no very heavy offerings of fresh vegetables of any description, but they were larger than previous week; it was the exception where choice did not meet with prompt sale at tolerably good prices. Onions were rather steadily held, but demand was not brisk at former figures.

Beans, Lima, ℔ lb	@	—
Beans, String, ℔ lb	@	8
Beans, Wax, ℔ lb	@	8
Cabbage, choice garden, ℔ 100 lbs	@	60
Egg Plant, Los Angeles, ℔ lb	@	8
Garlic, ℔ lb	@	7
Mushrooms, ℔ lb	@	15
Onions, Yellow Danver, ℔ ctl	2 25	@ 2 50
Peas, Green, Los Angeles, ℔ lb	@	6
Peppers, Green, ℔ lb	@	7
Rhubarb, ℔ box	50	@ 1 00
Summer Squash, Los Ang., small box	75	@ 1 00
Tomatoes, box	1 00	@ 1 50

NOTE.—Large boxes are what are known to the trade as "pay boxes," which have to be returned or paid for. They are open top, with handles in the ends, and weigh when filled from 60 lbs gross. Small boxes are free boxes, about same as the regular fruit box, weighing when from 20 to 30 lbs. gross.

Potatoes.

Demand for choice to select Burbanks was moderately active, and for stock of this sort the market was firm at the quotations. Common qualities were in more than ample supply for the demand, River River stock. Sweets were in fair supply, but sold to a little better advantage than preceding week, particularly the best qualities.

Early Rose, ℔ cental	1 10	@
Salinas Burbanks, ℔ cental	1 10	@
River Burbanks, ℔ cental	50	@
River Reds, ℔ cental	65	@
Oregon Burbanks, ℔ cental	1 00	@ 1
Sweet Potatoes, ℔ cental	50	@

Fresh Fruits.

Market for Apples of the better grades has shown a little more firmness, in consequence of demand on holiday account and decreased receipts. Sales of fancy and better stock, mostly Newtown Pippins, were made at $1.50 per box. Common qualities of Apples continued plentiful and without improvement in price. Some Grapes arrived for the holiday trade, but they were under choice and received little attention. Persimmons were in light supply and best offerings brought fairly good prices, but demand was slow. Whortleberries were in evidence in moderate quantity and in fair to good condition, brought 7@9c. per lb. from jobbers. Strawberries made a tolerably good showing as to quantity for the end of the year, but the quality of most of the offerings was rather ordinary. Fairly choice Longworths sold up to $13 per chest. Common Malindas were quoted at $2@3. Cheneys sold mainly within range of $4@6.

Apples, fancy, ℔ 50-box	1 25	@	1 50
Apples, good to choice, 50-lb. box	75	@	1 00
Apples, fair to good, ℔ box	50	@	75
Apples, Lady, ℔ box	1 00	@	2 00
Persimmons, ℔ regular box	50	@	75
Strawberries, large, ℔ chest	—	@	—

Dried Fruits.

While there is not much wholesale trading and never is at the close of the year, stocks of most kinds are too light to admit of any extensive business. Prunes of the medium sizes constitute the bulk of present offerings, and these are moving outward in considerable quantity. Shipments of other fruits are also of fair volume, considering the light amounts on hand. The steamer Ventura, sailing the 24th inst. for Australia, carried 89,385 lbs. of dried fruit, exclusive of Raisins, and including 27,710 lbs. of Prunes. A shipment of 198,000 lbs. Prunes went forward by steamer City of Peking on 24th for Germany. The steamer Queen, sailing the past week for British Columbia, carried 28,000 lbs. dried fruit, aside from some Raisins, the larger part of the shipment, 17,500 lbs., being Prunes. The above quantities aggregate over 315,000 lbs., and, to say nothing of minor amounts sent to the Orient and other sections, make a very good showing for a holiday week. Quotations are without change, but for most kinds the market is quite firm, Prunes of the middle sizes and Apples being the only noteworthy exceptions. Apricots and Peaches are nearly out of stock.

EVAPORATED OR BLEACHED.

Apples, 50-lb boxes, rings, pressed, good to choice	4 @ 4½
Apples, extra choice to fancy, 50-lb boxes	5½@ 6
Apricots, Moorpark	9 @11½
Apricots, Royal, good to choice, ℔ lb	7½@ 8½
Apricots, Royal, fancy	9 @10
Figs, 10-lb box, 1-lb cartons	55 @60
Peaches, unpeeled, good to choice	7¼@ 7¾
Peaches, unpeeled, fancy to extra fancy	8 @ 9
Pears, standard, ℔ lb	6½@ 7
Pears, choice to fancy	8 @10½
Plums, Black, pitted	5½@ 6½
Plums, Red, pitted	7 @ 8½
Plums, Yellow, pitted	6½@ 7½
Prunes, Silver, good to fancy	4 @ 7½
Prunes, in bags, 4 sizes, 1½@1¾c; 40-50s, 4@4¼c; 50-60s, 2½@2¾c; 60-70s, 2@2¼c; 70-80s, 1¾@2c; 80-90s, 1½@1¾c; 90-100s, 1@1¼c; small, ⅞@1c.	

COMMON SUN-DRIED.

Apples, sliced	3½@ 4½
Apples, quartered	3½@ 4½
Figs, White, in bulk	2 @ 2½
Figs, Black	2½@ 4

Raisins.

The market is ruling steady for loose and seeded. Stocks in the hands of growers and packers are estimated at not to exceed 10,000 tons. Layers are not in large supply, but there is a general desire to close out holdings of the same at an early date, the holiday trade being now over, for which these goods are mostly intended. A shipment of 66,324 lbs. Rasins went forward by steamer Ventura last Saturday for Australia.

CROP OF 1904.

(Fresno delivery except otherwise specified,)

London Layers, 2 crown, 20-lb box	85 @—
London Layers, 3-crown, 20-lb box	90 @ 95
Fancy Clusters, 4 crown, 20-lb box	— @1 30
Dehesas, 20-lb box	— @1 85
Imperials, 20-lb box	2 25 @2 35
2-Crown Standard loose Muscatel	3¼@3¼c
3-Crown Standard	3¾@4 c
4-Crown Standard	4¼@ —c
Seedless Thompsons	—@1¼c
Seedless Sultanas	—@3 c
Fancy, 16-oz. Seeded	6 c
Choice, 16-oz. Seeded	5 c
Fancy, 12-oz. Seeded	4¾c
Choice, 12-oz. Seeded	4 c
Bleached Sultanas, Woodland Dist., 50s	4¼@4¾c
Bleached Thompsons, Woodland Dist., 50s	5½@8 c

Citrus Fruits.

Oranges were in fairly liberal supply, especially common qualities. Only for strictly choice to fancy Navels did the market show firmness, and the latter were not quotable in a regular way over $2 per box. Japanes Mandarins were plentiful and were offered at a decline. Regular auction sales of California Oranges will be resumed the coming week. Lemon market was slow at quotably unchanged values. Market for Limes was dull and weak.

Oranges, Navels, ℔ box	1 00	@2 00
Oranges, Seedlings, ℔ box	50	@1 00
Oranges, Cal. Tangerines, half box	50	@1 00
Oranges, Japanese Mandarins, ℔ box	75	@1 25
Lemons, California, select, ℔ box	2 50	@—
Lemons, California, good to choice	1 75	@2 25
Lemons, California, fair to good	1 25	@1 75
Grape Fruit, ℔ box	1 50	@2 50
Limes, Mexican, ℔ box	3 75	@4 25

Nuts.

Business in Almonds is mostly of a light jobbing character. Offerings from first hands are not numerous or large in the aggregate, but they are not meeting with much attention at present. Straight carload lots of choice might invite competition from outside buyers. Walnut market firm for soft-shell, stocks of same being nearly exhausted.

Chestnuts, California-Italian, ℔ lb	7	@ 8
Nonpareil Almonds	14	@17
Plus Ultra Almonds	12	@14
Languedoc Almonds	9	@11
Almonds, fair to prime	6	@ 6½
Walnuts, No. 1 soft shell	12½	@13½
Walnuts, No. 2 soft shell	10½	@11½
Walnuts, No. 1 hard shell	11	@12
Walnuts, No. 2 hard shell	9	@10

Wine.

The wholesale market for dry wines is [illegible]. Of last vintage most of the best [illegible] have passed out of first hands, and [illegible] the common qualities there is no [illegible] inquiry. Dry wines of 1904 are [illegible] quotable nominally at 14@17c per gallon [illegible] for to choice, with market firm for [illegible] stock. Receipt at San Francisco [illegible] week were 527,400 gallons, as against [illegible] for preceding week. The steamer [illegible] Peking, sailing on 24th inst., carried [illegible] gallons and 36 cases, including [illegible] gallons for New York.

The Studebaker Almanac for 1905 is, as usual, full of valuable information of especial interest to rural residents. In addition to statistical and other information, it contains a large number of practical recipes and has revived some of the best sayings of old Josh Billings—the most humorous and philosophical of all American humorists. A free copy can be obtained from any Studebaker agent. If he can not supply you, send a 2 cent stamp to the Studebakers, South Bend, Ind., and mention this paper.

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THE PROPERTY IS ALL UNDER THOROUGH IRRIGATION, having its own Pumping Plant.

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Produce Receipts.

Receipts and exports of leading cereals and other California products for the past week and for the season to date, as compared with the corresponding time the previous year, are as follows:

FOR THE WEEK.		Since July 1, 1904.	Same time last year.
Flour, ¼ sks	86,012	2,539,770	2,981,557
Wheat, ctls	90,971	1,735,724	1,117,924
Barley, ctls	84,994	2,200,602	4,043,978
Oats, ctls	13,512	601,677	646,286
Corn, ctls	7,702	110,954	77,309
Rye, ctls	2,966	33,517	33,198
Beans, sks	12,559	414,873	519,952
Potatoes, sks	32,241	659,179	682,606
Onions, sks	5,164	78,883	94,871
Hay, tons	2,203	102,707	103,487
Wool, bales	415	39,041	33,144
Hops, bales	1,182	29,652	24,674

EXPORTS BY SEA.

FOR THE WEEK.		Since July 1, 1904.	Same time last year.
Flour, ¼ sk	36,024	1,863,568	2,017,544
Wheat, ctls	77,398	593,705	434,060
Barley, ctls	70,884	1,308,445	3,232,752
Oats, ctls	368	16,496	13,143
Corn, ctls	588	58,145	9,808
Beans, sks	647	37,421	21,084
Hay, bales	3,091	80,676	89,095
Wool, lbs	.....	809,532	1,651,525
Hops, lbs	8,349	226,081	439,489
Honey, cases	23	1,438	3,692
Potatoes, pkgs	1,535	52,447	51,010

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